

Maintenance

MAINTENANCE MANAGEMENT OF AIRCRAFT

COMPLIANCE WITH THIS INSTRUCTION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance*. It establishes the maintenance management system for AFSOC's activities. It applies to activities which maintain aircraft, munitions, aerospace ground equipment (AGE), avionics, and training equipment. This instruction specifies the maintenance management policies and the prescribed organizational structure to be used in AFSOC. It implements the provisions of AFI 38-101, *Air Force Organization*, and AFI 21-101, *Maintenance Management of Aircraft*. Organizational structure variances must be coordinated IAW AFI 38-101, Chapter 5. This instruction does not apply to AFSOC-gained Air National Guard (ANG) units or Air Force Reserve Command (AFRC) units. AFSOC-gained, AFRC units will comply to the maximum extent possible with this instruction during contingency operations.

SUMMARY OF REVISIONS

A thorough review of this instruction should be accomplished by Senior Leaders, Managers, and users to ensure units are operating with current guidance. Removed all references to AFRC and AFRC organizational charts. Revised 16 AGS, 16 MXS, 16 CRS, 16EMS and 352/353 MXS organizational charts to reflect current operations. Added Chapter 16, Flying Crew Chief Program, and revised policy. Added Production Superintendent and Expediter responsibilities to Chapter 3. Added all system Red X policy to Chapter 3. Added Parachute Rigger/Inspector qualifications and In Process Inspection policy to Chapter 4. Added Helicopter Generation Training policy to Chapter 5. Added Dropped Object Program and revised Functional Check Flight policy in Chapter 7. Revised engine run test development procedures in Chapter 9. Revised late take-off and recovered abort policy in Chapter 10. Added CAMS Data Integrity Process to Chapter 12. Revised text in Chapter 8, 9, 13, 14, 15 and 16 to reflect current operations.

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Chapter 1

MAINTENANCE MANAGEMENT

1.1. General Maintenance Management Information. Maintenance managers at all levels must use their resources to efficiently and effectively accomplish the assigned mission. To accomplish this, managers may use any maintenance management procedures that are not specifically prohibited by this instruction, other maintenance instructions, or technical orders. This instruction prescribes the maintenance organizational and functional alignment, policies, and procedures to be used throughout AFSOC. These do not conflict with specifications presented in AFIs 21-101 and 38-101 nor do they duplicate previous directives. Innovative management procedures and policies are encouraged; those in conflict with AFSOCI 21-106 guidelines or published Air Force directives require command review for waiver/variance approval at HQ USAF and/or AFSOC as applicable.

1.2. Waiver/Variance Request. Units are not permitted to deviate from this instruction without receiving written approval from HQ AFSOC/LGM. Waivers/variances are granted on a temporary (specified for a period of one year or less) or permanent basis. Units granted a waiver/variance will publish local guidance within 90 days of waiver/variance approval, citing the authority. Units granted a waiver/variance are responsible for reviewing it annually to determine validity and currency. Notify HQ AFSOC/LGMM of the status of each waiver/variance. Send waiver or variance requests through command channels. Include in the request the problem with current guidelines, required time period for waiver/variance, and what deviation is needed. Organizational variances require HQ USAF approval. Variance requests will be in accordance with AFI 38-101, Chapter 5. Variance requests for organizational change must be routed through HQ AFSOC/LGM and XP to HQ USAF/LGM and PEO. Approved variances, must be re-evaluated on an annual basis.

1.3. Objective of Maintenance. Aircraft and equipment readiness is the maintenance mission. The maintenance function ensures assigned aircraft and equipment are safely operable, serviceable, and properly configured to meet mission needs. Maintenance actions include, but are not limited to, inspection, repair, overhaul, modification, preservation, refurbishment, testing, and analyzing condition and performance. All levels of supervision must place emphasis on timeliness, quality, and safety in the performance of maintenance. Quality maintenance depends on the integrity and skills of the technician. This concept must be fostered by each supervisor and technician and will not be degraded. Shortcuts or incomplete maintenance actions are prohibited. When possible, maintenance is to be accomplished on a preplanned scheduled basis. This planning, when done properly, provides the most effective use of people, facilities, and equipment; reduces unscheduled maintenance; and allows for progressive actions toward maintaining and returning aircraft, equipment and material to safe and operable condition. Conducting a bench check of components and proper control of repair cycle assets throughout the maintenance cycle are also critical elements of the equipment maintenance program.

Chapter 2

MAINTENANCE ORGANIZATION

2.1. Maintenance Organization. The prescribed aircraft maintenance structure in this instruction is designed to provide operational flexibility and produce the most effective maintenance organization for carrying out the Air Force Special Operations mission during wartime or peacetime. To deviate from this organizational alignment, a unit must obtain a variance per paragraph 1.2. of this directive.

2.2.1. Because of wing and group differences, responsibilities listed in this instruction for offices that are not authorized or established will be passed to the next lower echelon. For example, if there is no logistics group commander in your organization, those responsibilities listed will be carried out by the maintenance squadron commander. This is applicable for all levels of authority (group, squadron, flight, section, etc).

2.1.2. Group and squadron commanders must ensure each function or work center is staffed consistent with requirements determined by mission, workload, available manning, and other related factors. Also, ensure only functions required by unit mission and assigned equipment are authorized.

2.1.3. Host base support agreements are encouraged, however, care must be taken to ensure they do not hinder capabilities in meeting special operations mission requirements. Ensure all agreements define the extent of authority and responsibility for consolidated functions.

2.2. Wing and Group Structures. AFSOC has two basic types of organizational structures. One is organized into a wing, which is further broken down into an operations group and a logistics group. The second type is organized as a single group with distinct operations and logistics responsibilities. This instruction was written with the wing in mind, however, all units will be able to use it following these guidelines:

2.2.1. Units operating under a wing will organize as reflected in figures 2.1. through 2.5. and 2.7. through 2.8.

2.2.2. Units operating as a single group will organize as reflected in figures 2.9. through 2.11.

2.2.3. Units geographically separated from their wing or group will organize as reflected in figures 2.6. and 2.12.

NOTE: The 31 SOS/CC assumes responsibility for paragraphs 3.3.1. through 3.3.3. The Senior Squadron Maintenance Officer (SMO) assumes responsibility for paragraphs 3.3.4. through 3.3.7.

NOTE: The 6 SOS aircraft maintenance functions are accomplished by contractor personnel using commercial technical data and are not covered by this AFSOCI. Wing, Group, and Squadron safety policy guidelines and AFOSH standards will apply.

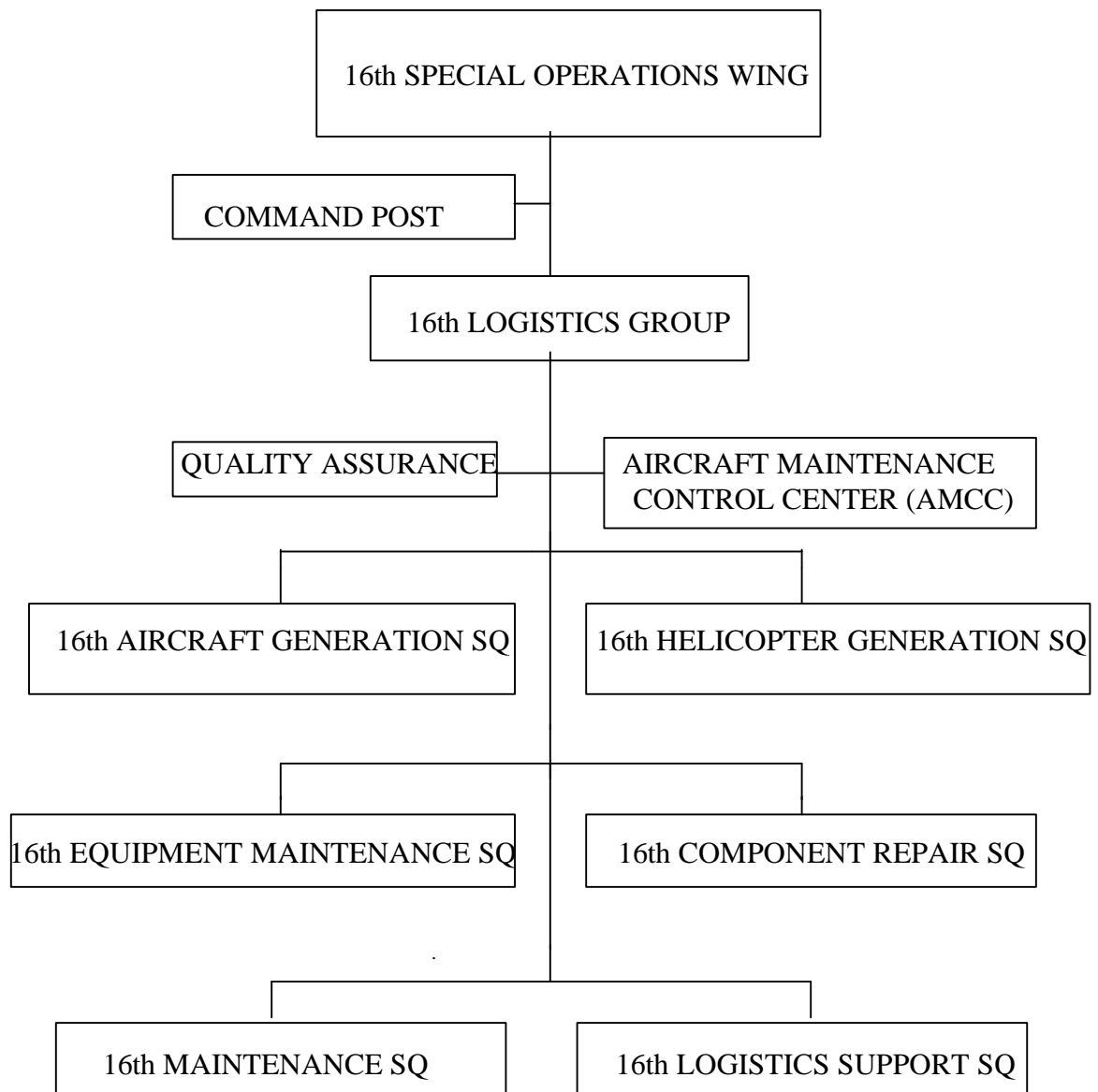
Figure 2.1. Special Operations Wing (SOW).

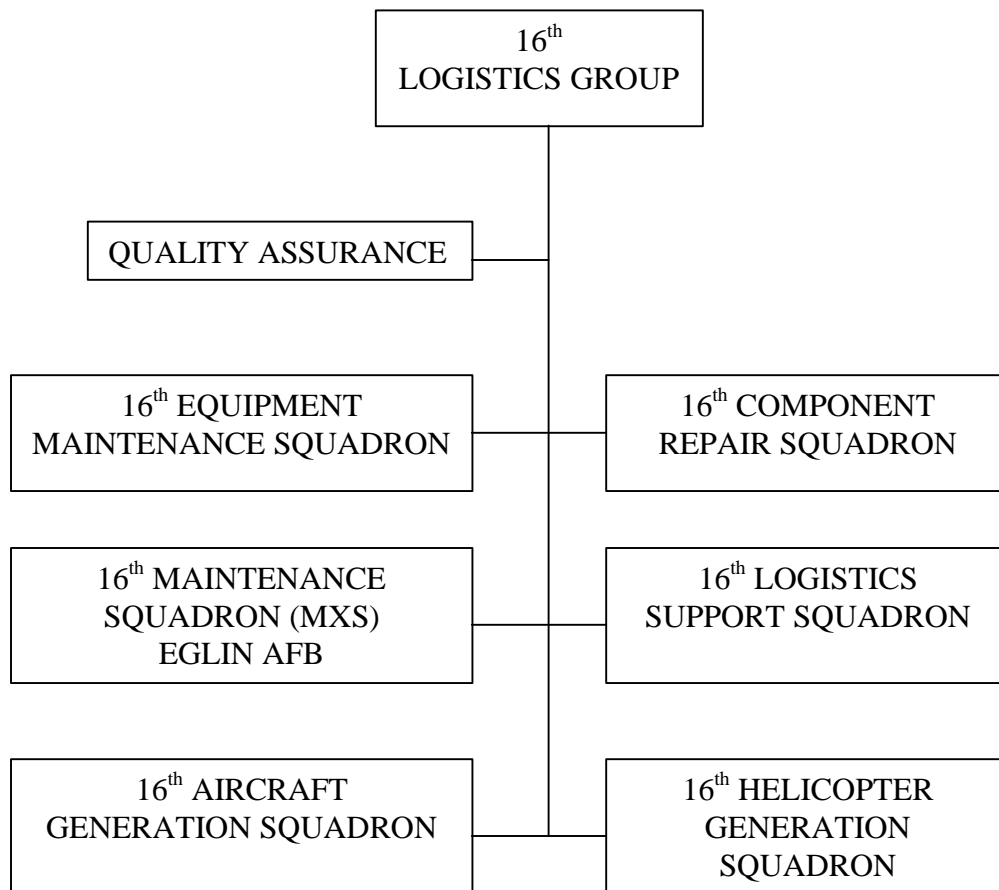
Figure 2.2. Logistics Group (LG).

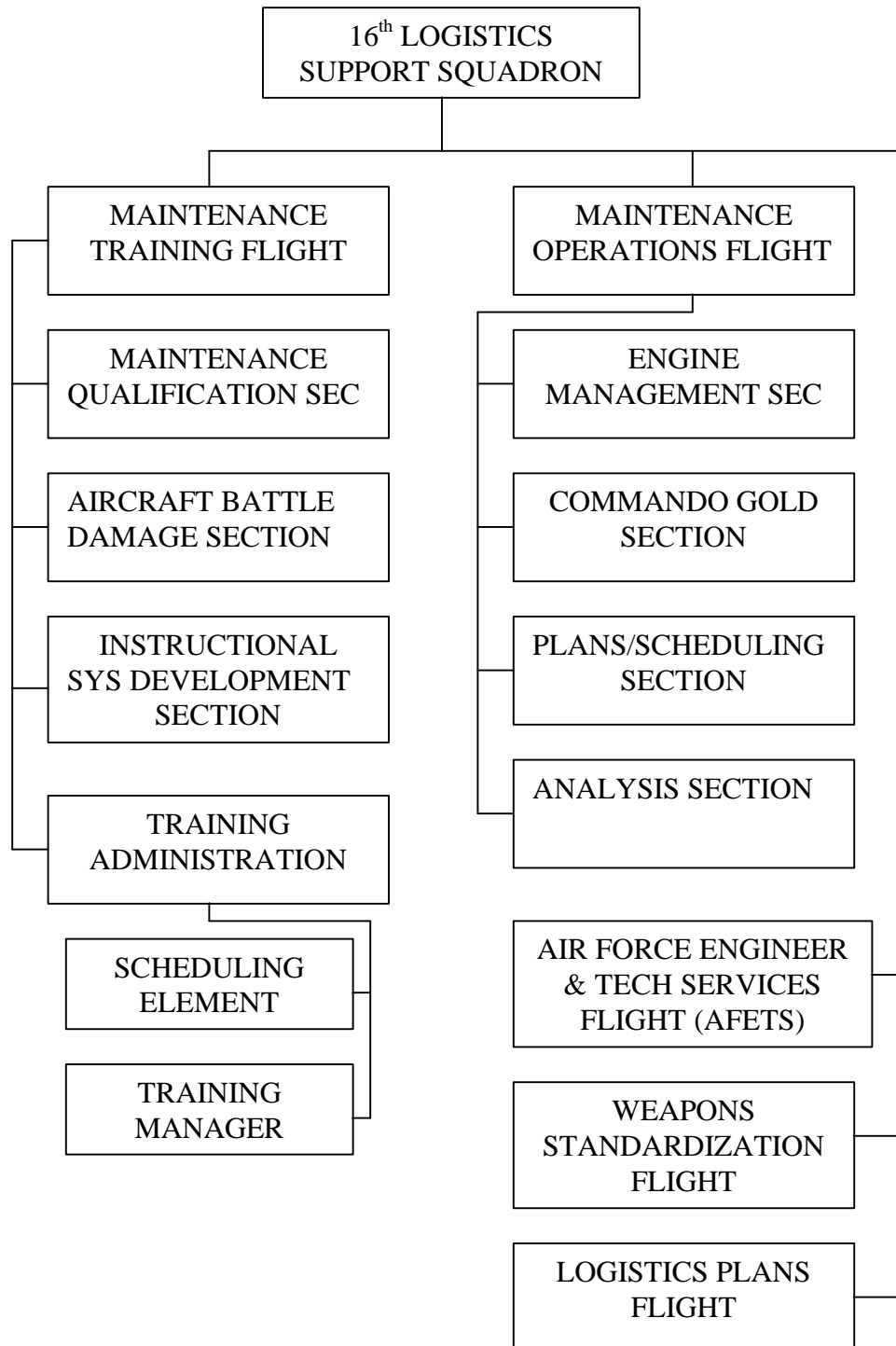
Figure 2.3. Logistics Support Squadron.

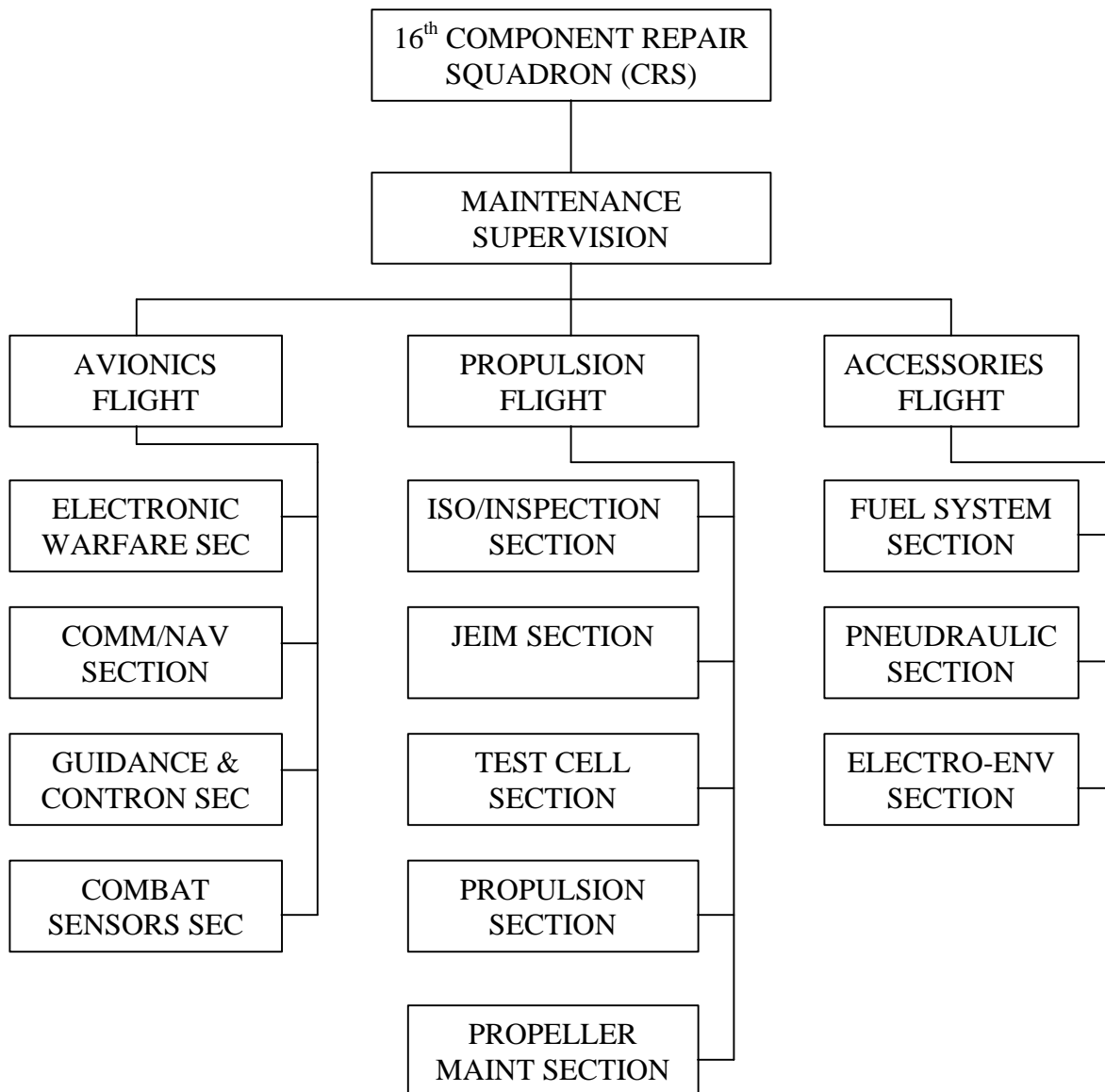
Figure 2.4. Component Repair Squadron (CRS).

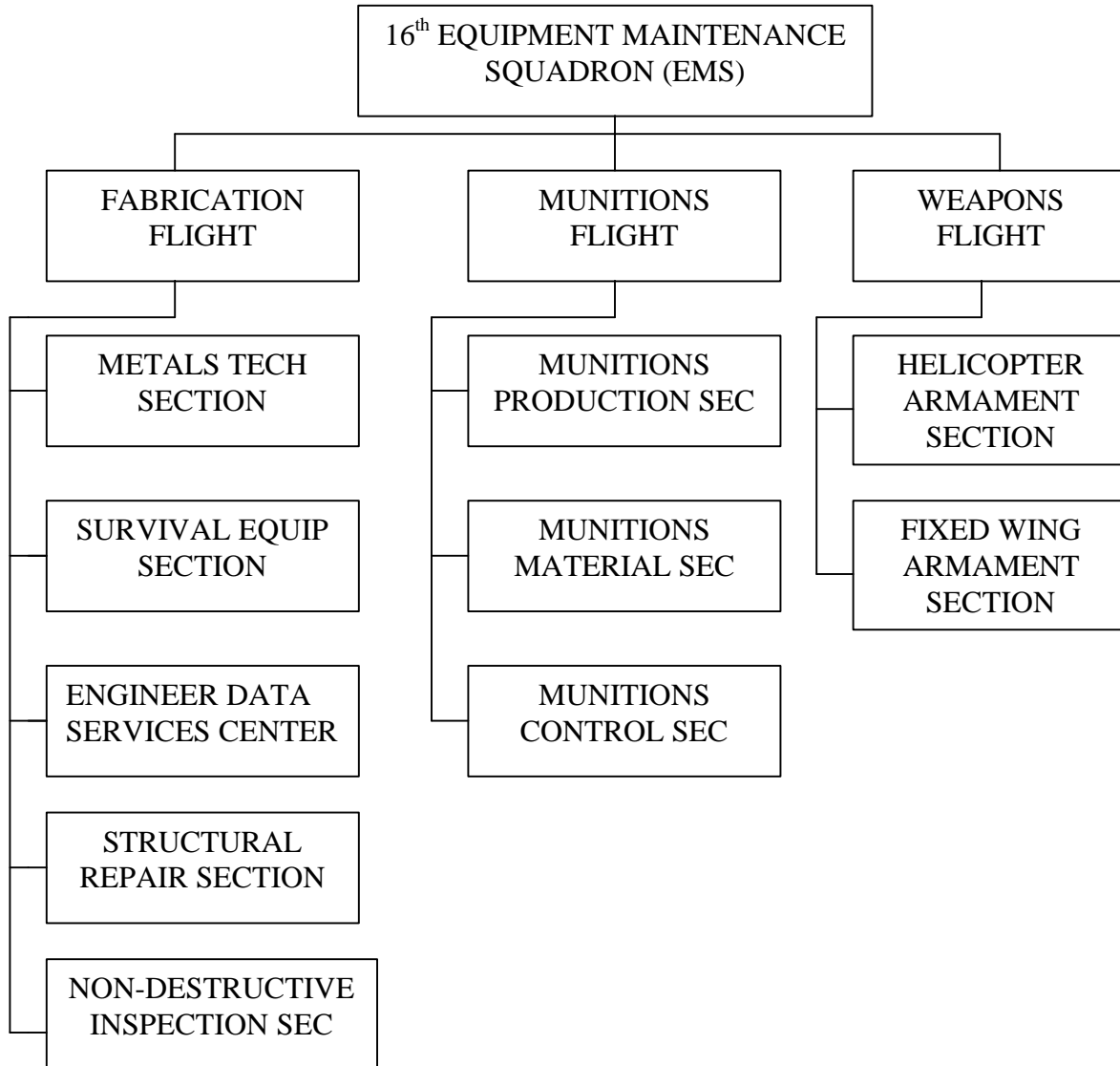
Figure 2.5. Equipment Maintenance Squadron (EMS)

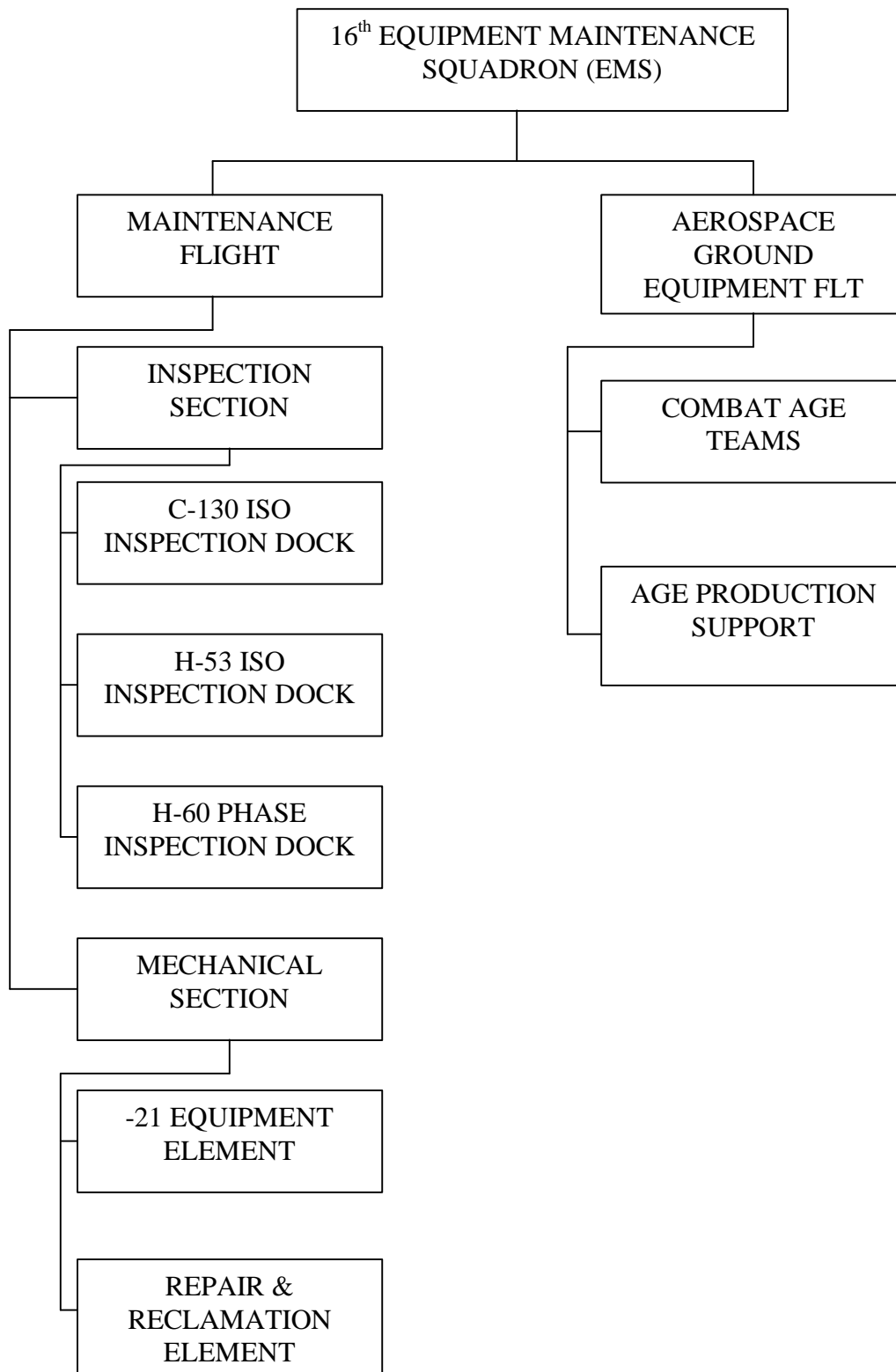
Figure 2.5. Equipment Maintenance Squadron (EMS), (Continued)

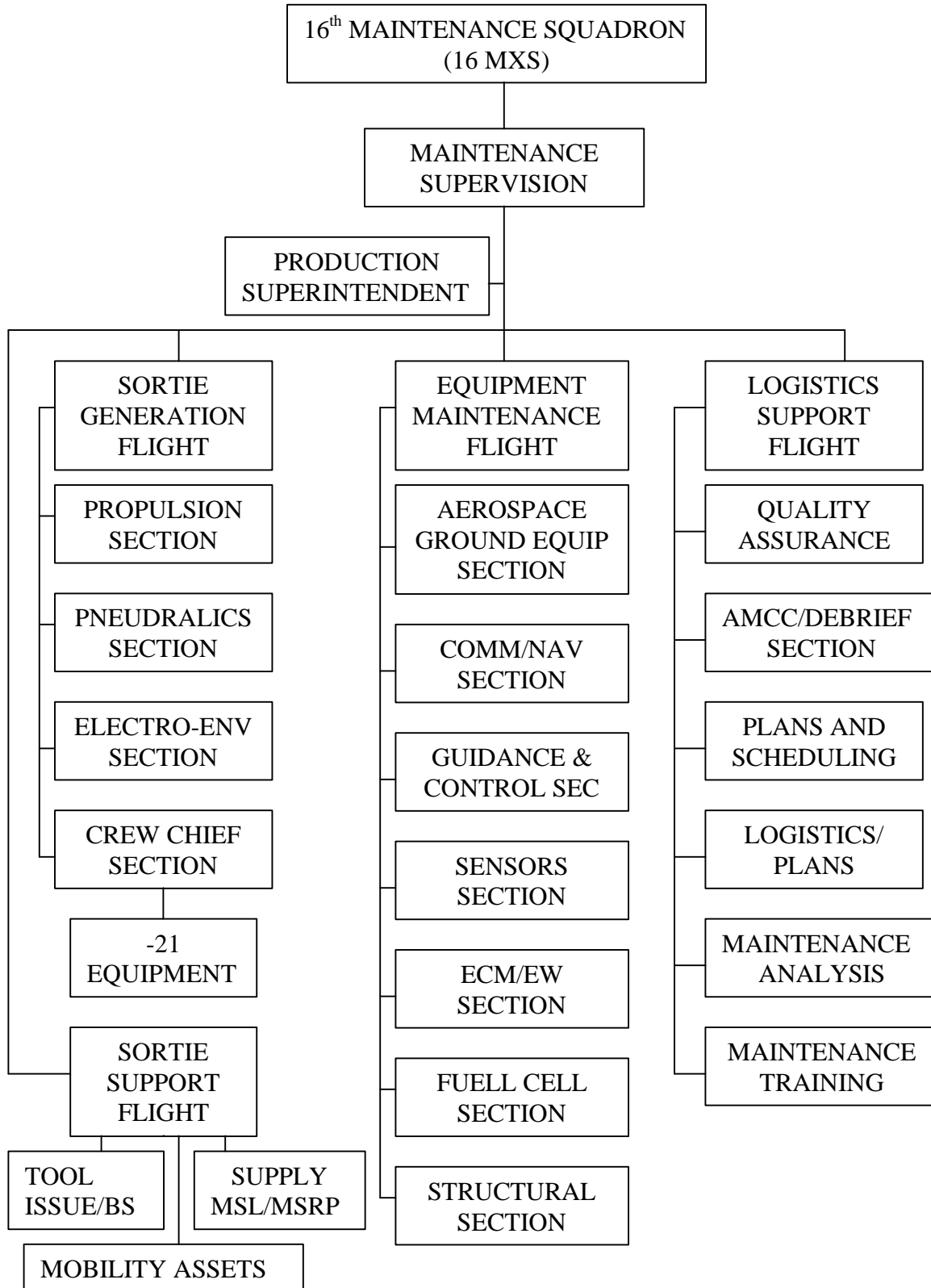
Figure 2.6. 16th Maintenance Squadron (MXS)

Figure 2.7. Aircraft Generation Squadron (AGS).

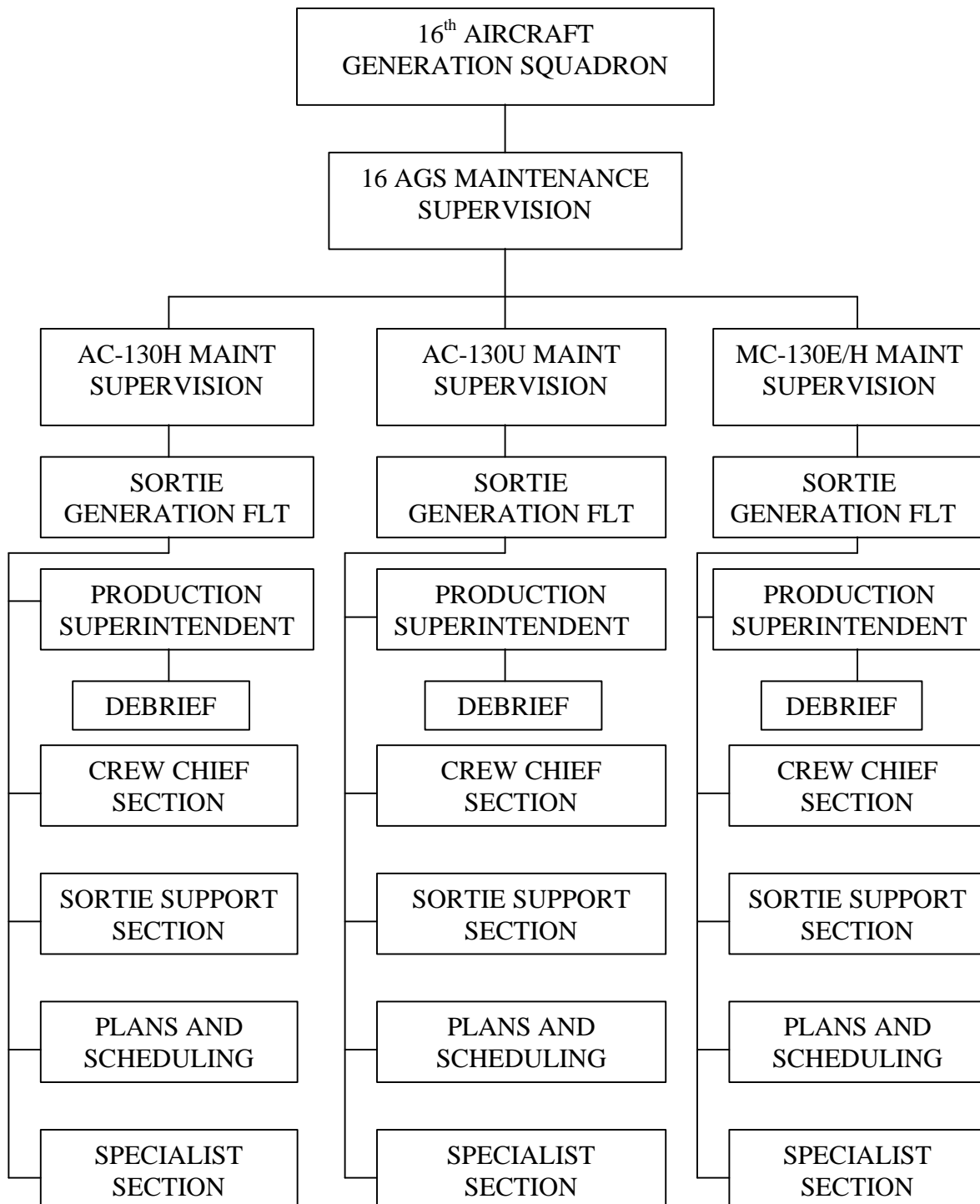


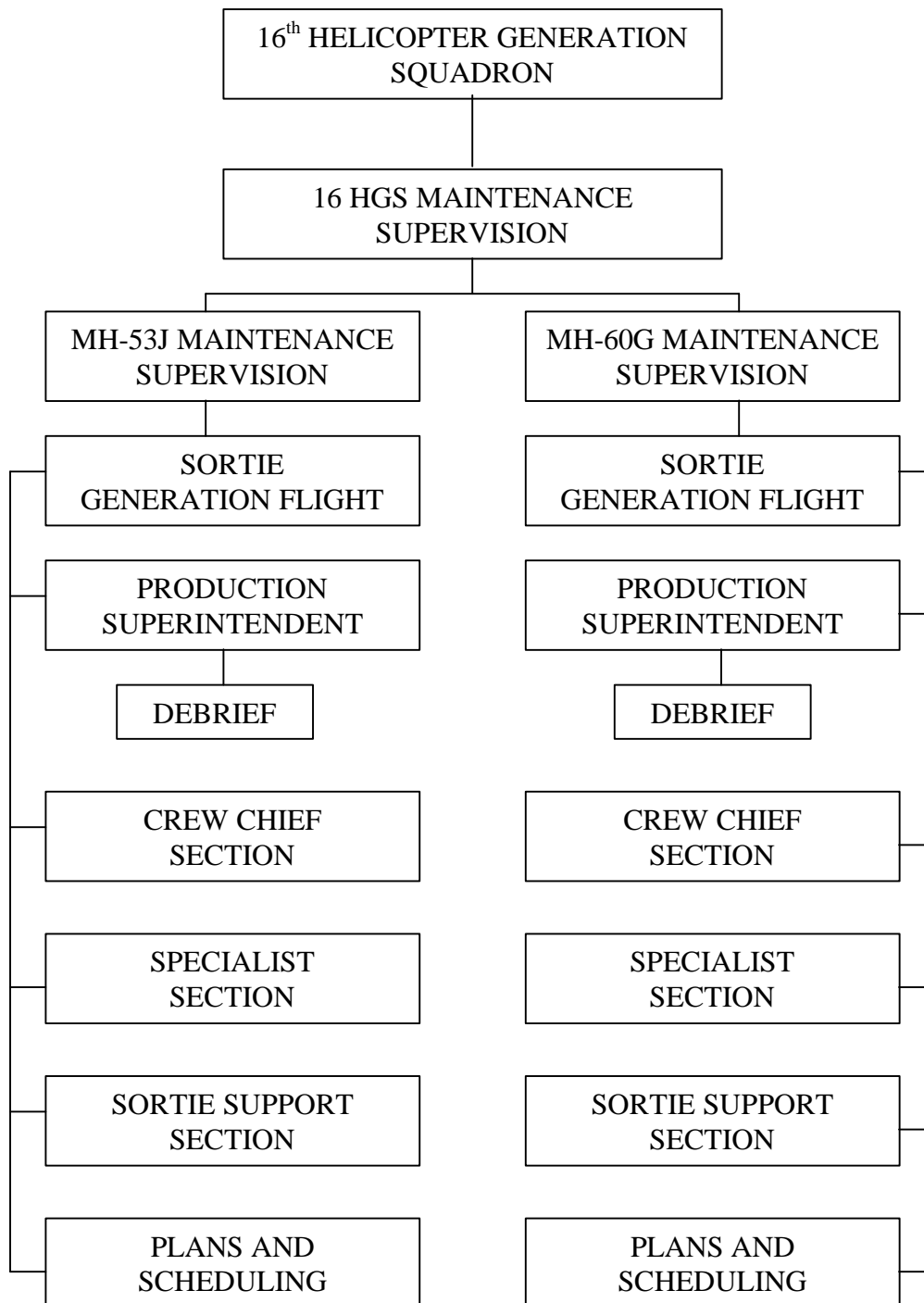
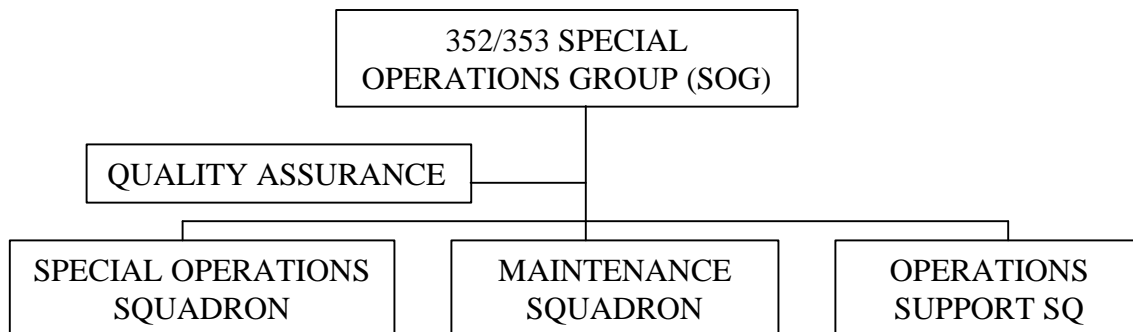
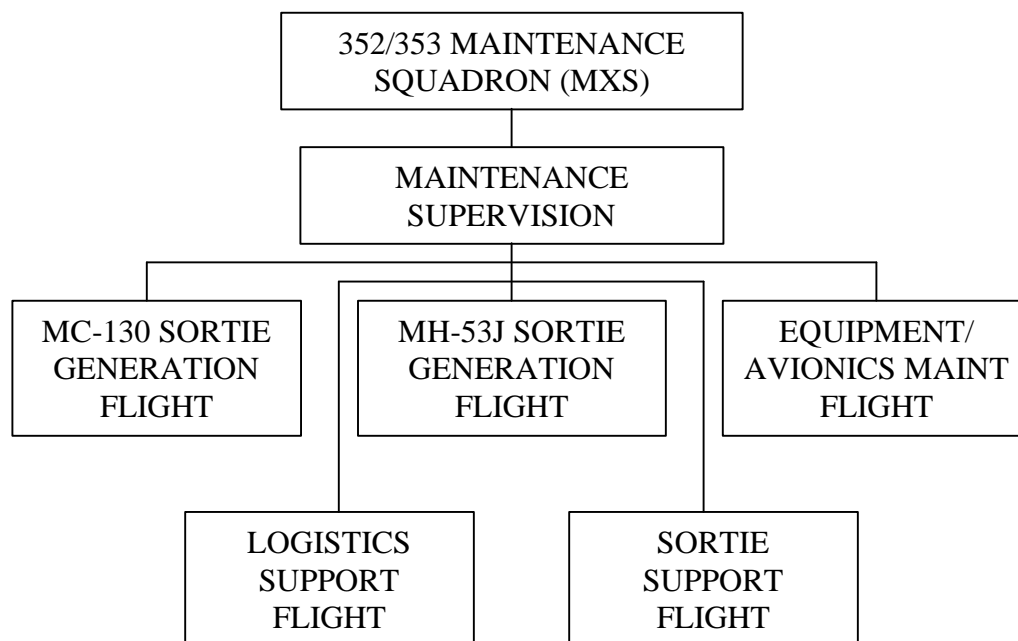
Figure 2.8. Helicopter Generation Squadron (HGS)

Figure 2.9. Special Operations Group (SOG)**Figure 2.10. 352/353 Maintenance Squadron (MXS)****NOTES:**

1. Accessories, Fuel and Fabrication Sections supported by host unit at 352 MXS.
2. Weapons personnel and assigned to the MH-53J Sortie Generation Flight for 352 MXS and 31 SOS for the 353 SOG.
3. Munitions support provided by host unit for 353 MXS and 31 SOS.
4. The maintenance section contains the inspection element, with the exception of 353 MXS, which is provided by the 374th Air Wing, Yokota AB, JA.

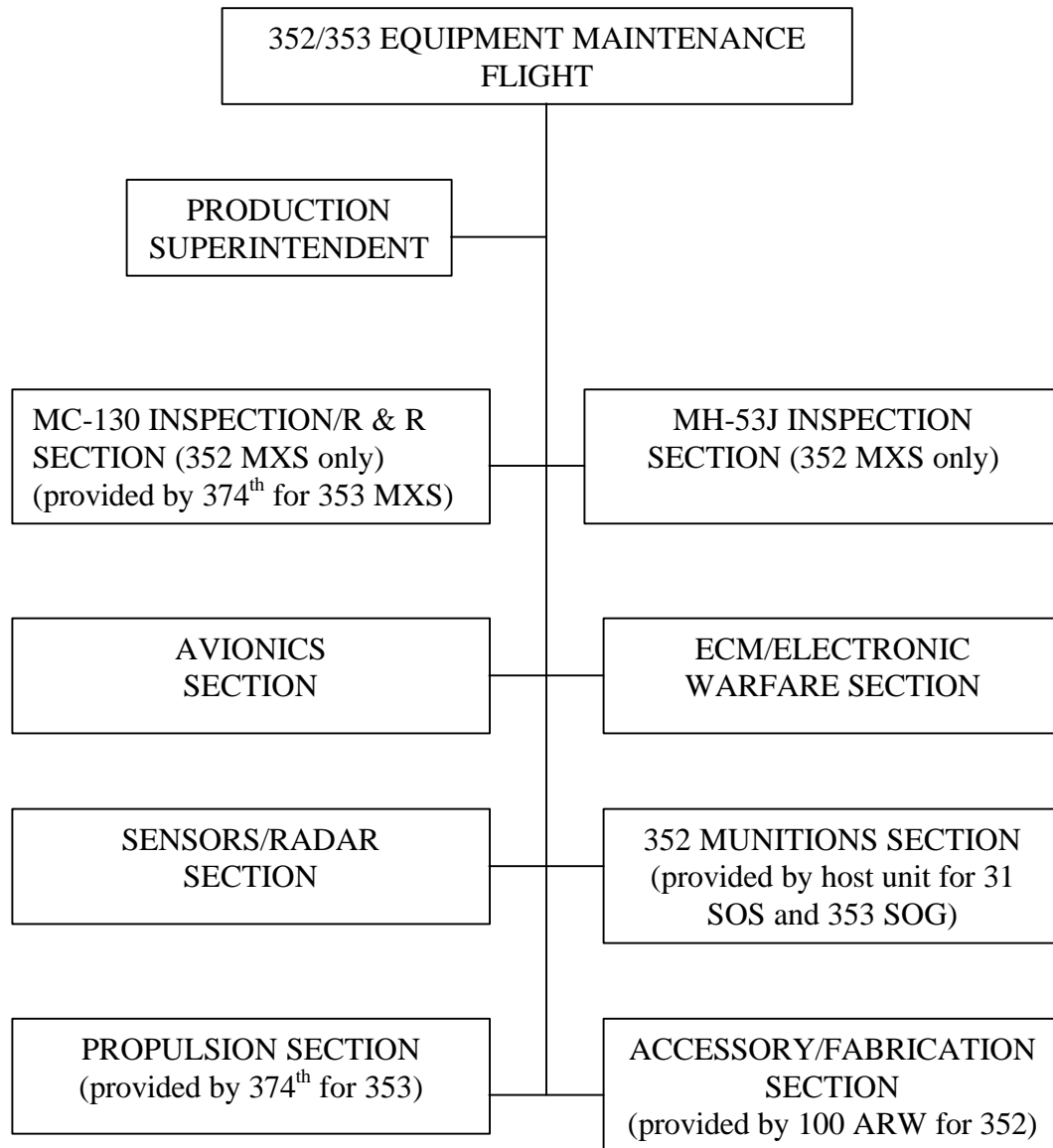
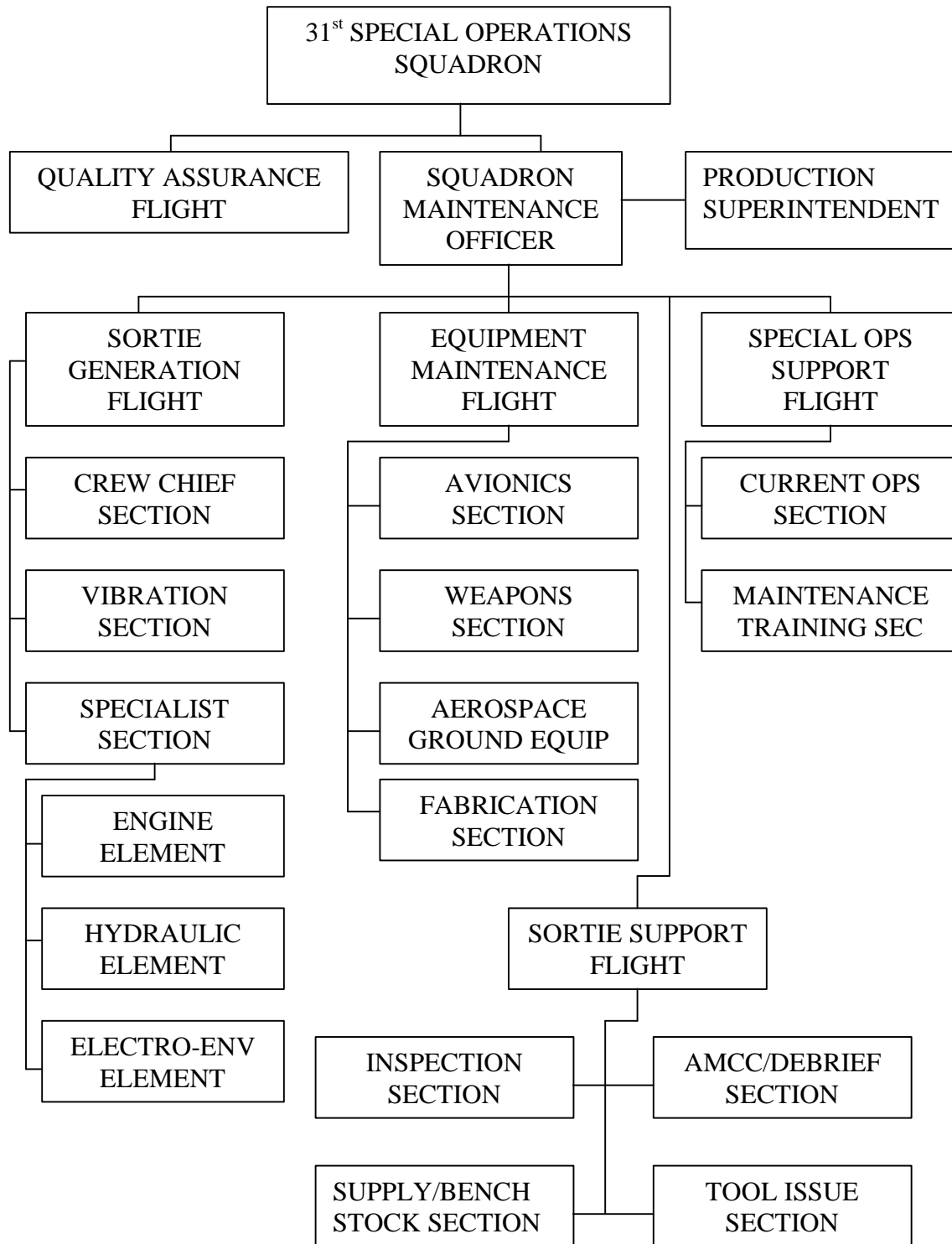
Figure 2.11. 352/353 Equipment Maintenance Flight (SOGs only)

Figure 2.12 31st Special Operations Squadron (SOS) Maintenance Only

Chapter 3

COMMON RESPONSIBILITIES

3.1. General Information. This Chapter outlines common maintenance responsibilities for AFSOC group and squadron commanders, maintenance officers/supervisor, production superintendent, and flight, section, and element chiefs. General responsibilities are addressed in AFI 21-101. Specific responsibilities are addressed in later chapters.

3.2. Logistics Group Commanders (LG/CC). The following are common maintenance related responsibilities that must be accomplished by AFSOC LG/CCs. Operating instructions (OIs) will be necessary to outline the following:

NOTE: The 16th Logistics Group Commander will coordinate all OIs applicable to the 6th Special Operations Squadron with the 16th Operations Group Commander (OG/CC). This is because the 6 SOS operates under the objective wing concept for maintenance.

3.2.1. Develop and publish a local foreign object damage (FOD) prevention program. Ensure the publication assigns areas of responsibilities and the objectives of Air Force directives are met per reference AFI 21-101.

3.2.2. Ensure a corrosion prevention program is established and well managed.

3.2.3. Establish and publish procedures for "repeat", "recur", and "could not duplicate" (CND) discrepancies (see T.O. 00-20-1, *Preventive Maintenance Program General Policy Requirements and Procedures*). Include a description of how to record and clear discrepancies that qualify as "repeat", "recur", and "CNDs."

3.2.4. Establish and publish an aircraft and equipment impoundment program. In addition to the impoundment requirements in AFI 21-101, the program should cover documentation requirements, justification for impoundment, impoundment authority, and impoundment release authority. Aircraft impoundment actions should be reported to HQ AFSOC/LGMW within 24 hours or the next duty day.

3.2.5. Establish guidance for cannibalization actions. Local policy should identify restrictions, specific procedures, individual responsibilities, and documentation requirements.

3.2.6. Establish guidance for management of aircraft grounded for extended periods IAW T.O. 00-20-5, *Aircraft, Drone, Aircrew Training Devices, Engines and Air-Launched Missile Inspections, Flight Reports, and Supporting Maintenance Documents*, paragraph 2-16, Calendar Inspections. Add additional requirements as necessary for a given mission design series (MDS) of aircraft. For overseas units, coordinate any unique requirements with the host unit LG/CC.

3.2.7. Develop and publish local policy on qualifications, procedures, and documentation requirements for signing off in-process inspections and publish a list of tasks requiring IPIs.

3.2.8. Authorize fully qualified maintenance officers with the SEI on the applicable weapon system and senior NCOs for all systems Red X, all system IPI, and Red X downgrade IAW AFI 21-101 and 00-20 series T.O.s except those which require specific task certifications (e.g. egress, munitions, welding). Group commanders are the only approval authority for all systems Red X and all system IPIs.

3.2.9. Develop and publish policies for selection, approval, and documentation of production inspectors and individuals requiring special certification. Authority to publish policies is stated in T.O. 00-20-1, AFSOC Sup 1.

NOTE: Special certification rosters must be reviewed quarterly as a minimum.

3.2.10. Develop and publish Time Compliance Technical Orders (TCTO), modifications, and One-Time Inspection (OTI) procedures. The policy should include assigning responsibilities, review procedures, and documentation requirements. (See T.O. 00-5-15, *Air Force Time Compliance Technical Order System*.)

3.2.11. Develop and publish local policy on critical tasks. Include a list of tasks considered to be critical. Also, include the minimum skill level required, prerequisites for certification, type evaluation required for certification, and frequency of recertification for each task.

3.2.12. Develop a publication outlining acceptance inspection responsibilities and procedures. (See T.O. 00-20-1).

3.2.13. Develop a publication outlining local product improvement, technical order improvement, and deficiency reporting procedures and responsibilities.

3.2.14. Develop and publish local procedures for developing, reviewing, and approving locally developed work cards, checklists, and job guides.

3.2.15. Establish tool issue and control procedures that include FOD prevention, security, control, and accountability. Also provide tool inventory procedures, methods of tool identification, and lost or missing tool procedures.

3.2.16. Establish an operating instruction (OI) for radioactive component tracking.

3.2.16.1. Coordinate with the Radioactive Material Permit holder and the Radiation Safety Officer (RSO) to ensure all permit conditions are met. AFSOC permit holders include 16 SOW/CC, 352 MXS/LGM, and 31 SOS/CC. Permit holder should assign RSO duties to an officer within the bio-environmental clinic. These officers have already completed the prerequisite 40 hours of radiation training mandated by AFI 40-201, *Managing Radioactive Materials* in the USAF, Section 4. Any officer chosen for RSO duties must have this training.

3.2.16.2. Appoint a unit radioactive material monitor to track In-flight Blade Inspection System (IBIS) indicators and depleted uranium main rotor balance weights.

3.2.16.2.1. Radioactive Program Monitor minimum duties shall include 100% accountability of all indicators and depleted uranium main rotor balancing weights by serial number, quantity, and location. Provide updates to WR-ALC/LUJC consolidated inventory as changes occur.

3.2.16.3. Implement and manage flying crew chief (FCC) program responsibilities listed in paragraph 16.1.2.

3.3. Squadron Commander. Squadron commanders have the following common maintenance related responsibilities:

NOTE: For the 6 and 31 SOS only, the Senior Squadron Maintenance Officer will assume the duties listed in paragraphs 3.3.4. through 3.3.7.

3.3.1. Ensure laws, regulations, instructions, technical orders, and policies that apply to assigned personnel are complied with.

3.3.2. Ensure implementation and management of unit safety, self-inspection, security, maintenance training, and personnel reliability programs, as applicable.

3.3.3. Develop and publish a Cross Utilization Training (CUT) program (see paragraph 4.5.) as needed. Policy should describe which tasks are candidates for CUT, skill level restrictions, and documentation policies. Maintenance scheduler augmentees may be drawn from general maintenance personnel until sufficient Maintenance Scheduler (2R1X1) personnel are available.

3.3.4. Ensure all maintenance policy requirements and directives are carried out.

3.3.5. Oversee all maintenance officers and superintendents.

3.3.6. Ensure aircraft impoundment procedures are accomplished consistent with existing policies in AFI 21-101 and this instruction. This may be accomplished directly or through delegation of authority to a representative designated by the LG/CC, OG/CC (6 SOS only), or SOG/CC (for overseas units).

3.3.7. Ensure all required maintenance actions are completed in support of mishap investigations. Direct oversight may be delegated to any maintenance officer/ superintendent as required.

3.3.8. Authorize selected 5-skill level personnel in the rank of SrA or higher, to serve as production inspectors waiving the 7-skill level requirement to facilitate the production effort. Waived 5-skill level personnel should be closely monitored and kept to the minimum required to accomplish the maintenance mission IAW AFI 21-101.

3.4. Maintenance Officer/Supervisor/ or Maintenance Superintendent Responsibilities.

Maintenance officers/supervisors or maintenance superintendents have the following common maintenance related responsibilities:

3.4.1. Responsible to the squadron commander for the management, supervision, and training of assigned personnel. They control maintenance through their flight and section chiefs.

3.4.2. Plan and coordinate with maintenance squadrons on issues related to their respective shops to achieve maximum support.

3.4.3. Provide authoritative technical assistance to the maintenance squadron commander.

3.4.4. Establish procedures and assign responsibilities for cross-cannibalization, removal of bits and pieces, and scheduling and controlling of repair cycle assets.

3.4.5. Develops In Process Inspections (IPIs) IAW 00-20-1 and AFI 21-101 (see paragraph 4.9.).

3.4.6. Select qualified and experienced personnel to perform production inspections, accomplish IPIs for specific systems or tasks, and certify Not Repairable This Station (NRTS) actions in accordance with local directives.

3.4.7. Select fully qualified maintenance officers with the SEI on the applicable weapon system and senior NCOs for all systems Red X, all system IPI, and Red X downgrade. The list of names must be sent to the group commander for approval (see paragraph 3.2.8).

3.4.8. Implement and manage the flying crew chief (FCC) program responsibilities listed in paragraph 16.1.3.

3.5. Flight and Section Chief Responsibilities. Flight and section chiefs have the following common maintenance related responsibilities:

3.5.1. Administer the unit safety program and ensure all applicable safety and Air Force Occupational and Environmental, Safety, Fire Prevention, and Health (AFOSH) standards are available, understood, and followed. Ensure personnel in hazardous areas know of safety implications and document this on AF Form 55, **Employee Safety and Health Record**. Identify requirements to bio-environmental engineers, ensuring facilities meet Air Force industrial environmental standards IAW AFI 91-301, *Air Force Occupational and Environmental, Safety, Fire Prevention, and Health (AFOSH) Program*.

3.5.2. Evaluate documentation accuracy of maintenance actions on forms and Core Automated Maintenance System (CAMS).

3.5.3. Manage assigned maintenance personnel and coordinates their work schedule, additional duties, and appointments with the production superintendents to ensure adequate coverage for the production effort.

3.5.4. Ensure that bench sets and mock-ups are inspected, calibrated, and repaired as required. Ensure bench sets and components are identified as such and are not used on aircraft for completion of maintenance actions.

3.5.5. Ensure procedures and assigned responsibilities for cross-cannibalization, removal of bits, and scheduling and controlling of repair cycle assets are accomplished.

3.5.6. Ensure personnel morale and welfare is maintained at the highest possible level conducive to a productive work environment.

3.5.7. Ensure maintenance personnel are trained, qualified, and motivated to perform quality maintenance and assigned tasks, are combat ready, and able to mobilize worldwide.

3.6. Production Superintendent. The production superintendent is responsible for the maintenance production effort. The lead production superintendent schedules production superintendents to cover all shifts. In addition to the responsibilities outlined in AFI 21-01:

3.6.1. Directs the maintenance effort using resources from sortie generation and sortie support flights.

3.6.2. Involved in developing and implementing the monthly and weekly maintenance plans and ensures resources are available to meet these plans.

3.6.3. Squadron point of contact for all decisions relating to squadron maintenance production.

3.6.4. Authorize cannibalization actions within squadron resources. Conducts a weekly review and reconciliation of cannibalization actions with aircraft AFTO Form 781A, **Maintenance Discrepancy Work Document**, AFTO Form 781K, **Aerospace Vehicle Inspection, Engine Data, Calendar Item Inspection, and Delayed Discrepancy Document** and CAMS.

3.6.5. Coordinates with other squadron production superintendents for squadron to squadron support.

3.6.6. Attend daily maintenance meetings.

3.6.7. Know the status of assigned aircraft. Particular emphasis is placed on NMC aircraft and the actions necessary to return them to FMC/PMC status.

3.6.8. Know the actions required under the units mobility/contingency plans, directs aircraft generation flow, and coordinates with the AMCC for support required outside their control. Responsible for developing and keeping generation line-ups current.

3.6.9. Maintains a current copy of the on-base disaster map with cordon overlay and appropriate check sheets during disasters. Is familiar with specific disaster control duties, and with the portion of AFI 32-4001, *Disaster Preparedness Planning and Operations* and AFI 10-229, *Responding*

to Severe Weather Events, pertaining to movement of aircraft, support equipment, and evacuation of flightline personnel.

3.6.10. Advises the AMCC of conditions which may disrupt the orderly and controlled execution of the maintenance plan.

3.7. Flightline Expediter. The flightline expediter reports directly to the production superintendent, ensures maintenance accomplishment and sortie production by managing, controlling and directing allocated resources.

3.7.1. Determine aircraft status and coordinate with the production superintendent and AMCC.

3.7.2. Knowledgeable of the primary assigned aircraft systems and have the ability to supervise and control work.

3.7.3. Present on the flightline anytime maintenance is being performed and during all aircraft launch and recovery operations.

3.7.4. Track all discrepancies identified during “red ball” maintenance and take proper follow-up action.

3.7.5. Review jobs preplanned by PS&D and deferred discrepancies, and coordinates with responsible agencies for completion.

3.7.6. Maintain a current copy of daily and weekly flying schedule, emergency action checklists, base grid map, applicable IPI list, minimum essential subsystem list (MESL), current work unit code manual, and a locally made status board or sheet in vehicle.

3.7.6.1. The status board shows serial number, location, status, estimated time in commission (ETIC), configuration, condition codes, fuel load, munitions load, and remarks for each assigned aircraft. Show all limitations against the FSL and BSL column as itemized on the MESL in AFI 21-103.

3.7.7. Expediters relay the following the following to the AMCC:

3.7.7.1. Changes to aircraft status IAW AFI 21-103, to include discrepancy, WUC, ETIC, and job completion.

3.7.7.2. Confirms aircraft are ready for flight (crew ready) and notifies AMCC.

3.7.7.3. Fuel and munitions configuration.

3.7.8. For cannibalization actions, expediters obtain a JCN and notify the supply section.

3.7.9. Expeditors request additional required support, such as specialists not assigned to the squadron, POL, fire trucks, AGE, ground safety, ect.

3.8. Dedicated Crew Chief. Dedicated crew chief responsibilities are addressed in AFI 21-101, Chapter 3.

Chapter 4

GENERAL POLICIES

4.1. Personnel Utilization. Align maintenance work shifts to provide the best mission support, supervision, and training possible. Use the standard 40-hour work week to plan peacetime duty hours. Include a third shift and weekend duty to minimize overtime as required. Stand-by personnel may be used in lieu of an established third shift and/or weekend duty if available manpower is limited. Although overtime may be required to meet peak workloads, when actual work hours consistently exceed the 40-hour work week standard, maintenance supervisors and commanders must reassess the requirements which made the overtime necessary. The following terms and guidance are provided for the effective use of manpower and ensure adequate rest periods for all personnel assigned to maintenance activities. The senior maintenance representative at deployed locations may waive these provisions during an emergency or advanced defense readiness conditions (including exercises) if necessary for mission accomplishment, always ensuring safety is not jeopardized.

4.1.1. Duty time begins when an individual reports for duty and ends when their supervisor releases them.

4.1.2. A normal rest period is that time which provides an individual the opportunity for a minimum of 8 consecutive hours of uninterrupted sleep in a 24-hour period.

4.1.3. Each maintenance person must be given the opportunity for a normal rest period after completion of a 12-hour continuous duty period.

4.1.4. Duty periods for crew chiefs and maintenance technicians traveling with an aircraft are normally controlled by the aircraft commander. The aircraft commander will:

4.1.4.1. Ensure individuals are afforded adequate rest periods and breaks. Stop anyone if fatigue may cause safety to be jeopardized.

4.1.4.2. Allow maintenance technicians the opportunity for a minimum of 8 consecutive hours of uninterrupted sleep in a 24-hour period.

4.1.4.3. If ground time warrants, develop a work and rest plan (not to exceed more than 12-hour work and rest cycle). The work and rest cycle should be adjusted to give maintenance personnel an adequate rest period prior to the departure of the aircraft if at all possible.

4.1.4.4. Ensure that crew chiefs and maintenance technicians have provisions made for them in work and rest facilities when their ground time warrants it.

4.2. Technical Orders. All major command options to T.O.s 00-5-1, 00-5-2, 00-5-15, 00-20-1, 00-20-5, and 00-20-7 not included in this instruction or addressed in AFSOC supplements are delegated to the group commanders.

4.3. Management Information System. The Management Information System (MIS) used in AFSOC is CAMS. It provides for record keeping, reporting to higher headquarters, and maintenance data transcription tasks that can be efficiently and effectively handled by computer. This is a maturing data system that must be continually updated and made more responsive to the needs of maintenance managers in a changing environment. Recommended changes to or problems with CAMS are sent through unit channels to HQ AFSOC/LGMXA.

4.4. High Speed Taxi Checks. High speed taxi checks are authorized (reference AFI 21-101) with the approval of the Group/CC only. Host Wing/Group commanders as applicable must be notified prior to the taxi check for their approval or disapproval. A check which requires speed greater than normal taxi speeds is performed only under the provisions of T.O. 1-1-300, *Acceptance/Functional Check Flights and Maintenance Operational Checks*, and in accordance with applicable system specific technical data.

4.5. Cross Utilization Training. The CUT program gives additional task qualifications to personnel outside their AFSC. CUT provides maintenance managers an alternative to several manpower problems. It can be used to even out work loads by shifting manpower intensive tasks to skills or personnel with low utilization. CUT also permits the unit to develop a broad base of individuals who are qualified to perform key tasks in areas where manning is low. With this type of training, you may be able to reduce the required manning for some deployments. Use caution in determining peacetime CUT requirements to ensure unit combat capabilities are not degraded.

4.6. Supply Discipline. All levels of supervision must practice good supply discipline. Effective management of supply assets result in lower costs and makes the supply system more responsive to maintenance needs. In addition to the responsibilities covered by AFMAN 23-110, Volume 2, Part 13, *Standard Base Supply Customers' Guide*, maintenance work centers will:

4.6.1. Establish and manage a storage area for reusable containers. Consolidation of storage areas with other work centers is authorized.

4.6.2. Establish, in conjunction with base supply, collection and pickup points for the turn-in of XB3 materiel. The number of pickup points is a local decision.

4.6.3. Establish and monitor hazardous material collection points.

4.6.4. Ensure group level guidance for cannibalization actions is strictly adhered to throughout the unit. See AFSOC 21-108, *Logistics Support Operations*.

4.6.5. Ensure host-wing tenant agreements are written as required to support maintenance requirements.

4.7. Safety. Safety is everyone's concern and must be continually examined. The ideal situation is for problems to be found and corrected at the earliest possible time and at the lowest level. Therefore, anyone observing a safety infraction may record and report it. These reports are

forwarded to the section chief, flight chief, squadron safety office, commander, and Quality Assurance (QA) Office. The problem must be corrected and information provided for trend analysis. If a trend is detected, process improvement efforts should begin to develop a process that fixes the problem.

4.7.1. Command Policies. Certain health and safety issues require the establishment of policy at the command level. These issues include but are not limited to the following:

4.7.1.1. Gortex Uniform Wear.

4.7.1.1.1. Gortex uniform items may be worn during fuel servicing actions (including mixed fuel criteria) which include JP-5, JP-8, JP-10, Jet A, and diesel fuels. Gaseous oxygen (GOX) servicing is permitted as well.

4.7.1.1.2. Gortex uniform items will not be worn while handling or servicing liquid oxygen (LOX), MOGAS (regardless of quantity), and while handling, loading, or unloading electrically primed pyrotechnic devices or munitions, such as impulse cartridges, 20/25 MM ammunition, etc.

4.7.1.1.3. Operation-specific guidance that is more restrictive than higher headquarters will be adhered to. Certain aircraft and equipment technical orders/job guides may contain other clothing restrictions including those placed on the wear of Gortex. These restrictions will be followed to the letter.

4.7.1.1.4. All personnel should be aware of the dangers of static electricity development inherent with a drop in relative humidity. Anyone functioning in a supervisory capacity must take the appropriate action to suspend maintenance operations that they are responsible for if a static electricity hazard is present or developing.

4.7.2.1. Cardiopulmonary Resuscitation (CPR) Certification.

4.7.2.1.1. CPR is required training for all aircraft maintenance personnel who are required to perform tasks on energized circuits, whether on aircraft or during in-shop bench tests.

4.7.2.1.2. CPR training is required by technical orders for certain maintenance procedures such as those found in T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Fuel Tanks and Fuel Cells*.

4.7.2.1.3. Local authorities may identify other job tasks requiring CPR training due to potential hazards associated with the job.

4.7.2.1.4. Unit CPR instructors are usually trained by host installation medical personnel. If the host installation cannot provide the support, unit personnel may be certified through the American Red Cross or the American Heart Association.

4.7.2.1.5. All personnel requiring CPR training, as identified in the paragraphs above, will receive refresher training and be recertified annually, regardless of the length of time for which the previous certification was valid.

4.8. Maintenance Activities During Adverse Weather Conditions. In addition to AFI 10-229, *Responding to Severe Weather Events*, the following policy is mandatory for all AFSOC units. This policy is considered a minimum requirement and may be supplemented by local directives from AFSOC, host, or forward operating base commanders.

4.8.1. Lightning Policy.

4.8.1.1. **Lightning Watch.** A lightning watch is issued by the base weather station (BWS) if conditions are favorable for lightning within a 5 nautical mile (NM) radius of any maintenance activity. Personnel will observe the following requirements and restrictions:

4.8.1.1.1. Operations or activities may continue; however, all personnel must be prepared to implement lightning warning procedures without delay.

4.8.1.1.2. All personnel must be alert for any visible and/or audible thunderstorm activity and advise supervisory personnel of any observations.

4.8.1.1.3. **Lightning Watch Cancellation.** A Lightning watch will be canceled only if there is no potential for more thunderstorms within the next 30 minutes.

4.8.1.2. **Lightning Warning.** A lightning warning will be in effect whenever lightning is within a 5 NM radius of any maintenance activity as observed by the BWS. Personnel will observe the following requirements and restrictions:

4.8.1.2.1. All outside operations and activities will cease. Personnel will seek approved shelter immediately. Units will determine in advance what buildings will be used as approved shelters in coordination with installation authorities and published safety standards.

4.8.1.2.2. Personnel will be given the “All Clear” by applicable supervisory personnel upon notification from the BWS that thunderstorms have moved beyond the 5NM radius of the maintenance activity.

NOTE: Personnel **will not** return to the maintenance site until the “All Clear” is given. a lightning watch may still be applicable (see paragraph 4.8.1.). If applicable, all personnel must maintain an attitude of readiness should evacuation again become necessary.

4.9. In Process Inspections (IPI). Technical order 00-20-1 specifies the requirement for IPI. AFI 21-101 further defines the requirement and provides general guidelines. This section expands and defines the command policy.

4.9.1. An IPI is an additional supervisory inspection or verification step at a critical point in the installation, assembly, or re-assembly of a system, subsystem or component. These inspections are either T.O. or locally directed and are accomplished by a production inspector. Each squadron maintenance officer/superintendent will develop a list of maintenance tasks requiring an IPI. The list will include work unit code, nomenclature, specific T.O., paragraph, and step number within the technical order task where the IPI will be called for. The maintenance officer/superintendent will submit the list to their respective quality assurance for consolidation, group commander approval, and publication as an Operating Instruction (OI). IPIs will be reviewed for applicability annually.

4.9.1.1. Documenting the IPI. All tasks requiring an IPI will be entered on a Red X in the AFTO Form 781A, **Maintenance Discrepancy and Work Document**, AFTO Form 244, **Industrial/Support Equipment Record** or appropriate work document. A statement will be entered in the discrepancy block for the original discrepancy as follows: "IPI required, see page__block__". The next open discrepancy block on AFTO Form 781A will be a Red X and have the following information: "IPI due IAW T.O.__, paragraph __, step__, and O.I. __". The person accomplishing the task is responsible for notifying the IPI certifier at the appropriate step. The certifier will comply with the IPI and document their inspection by entering the statement "IPI complied with" in the corrective action block. Signature, rank, employee number and the date will be entered in the inspected by block of the work document and CAMS. The production inspector who ultimately clears the Red X will ensure the IPI was complied with and documented.

4.9.1.2. Document engine-off equipment in the engine work folder with the same procedures in paragraph 4.9.1.1.

4.9.2. IPI policy for the MC-4, MC-5 and MT1 series Ram Air Parachutes.

4.9.2.1. Personnel selected for Ram Air Parachute (MC-4, MC-5, and MT1-series) IPI certification must possess AFSC 2A754, be a SSgt or above, have a minimum of one-year Ram Air Parachute rigger experience, and must be recommended by their immediate supervisor, coordinated through the NCOIC, and approved by Squadron maintenance supervision.

4.9.2.2. Training Requirements. Individuals selected to perform parachute IPIs must have received training by one of the following methods.

4.9.2.2.1. Must have satisfactorily completed the in residence U.S. Army Quartermaster Center and School Ram Air Parachute Systems Certification Course or by the Army Mobile Training Team.

4.9.2.2.2. Trained by a graduate of the Army course and packed at least 25 parachutes of the type they will inspect.

4.9.2.2.3. Trained by a person qualified to perform IPIs, packed at least 25 of the parachute type they will inspect, and successfully completed three Quality Assurance over the shoulder evaluations with no errors while performing as an IPI inspector.

4.9.2.2.4. As a minimum the IPI training will be documented and certified on Air Force Form 797, **Job Qualification Standard Continuation/Command JQS** and the Special Certification Roster after approval. Documentation of Army course completion will be made in block IV of the AF Form 623, **On-The Job Training Record**.

4.9.2.3. Group Commanders may waive the grade requirement and authorize selected SrA to perform IPIs if necessary to facilitate the production effort. The individual must have a minimum of two years Ram Air Parachute rigger experience and meet all other requirements. A waiver letter is required and must include sufficient justification. Upon Group Commander approval, file a copy of the waiver letter in the individual's AF Form 623. The waiver will be reviewed after six months for continuing need and reaccomplished annually. Waived SrA should be closely monitored and kept to the minimum required to accomplish the mission.

4.9.2.4. The individual performing the IPI will not be the same person packing the parachute under any circumstance.

4.9.2.5. Other MAJCOM units providing backshop support to AFSOC Special Tactics Squadron riggers may use this document as minimum qualifications for their assigned riggers to provide IPI qualified assistance.

Chapter 5

MAINTENANCE TRAINING

5.1. Maintenance Training. The maintenance training program ensures personnel are qualified to perform their assigned duties by managing upgrade training (UGT), qualification training (QT), and ancillary training. Maintenance training is an essential element in maintaining and improving maintenance capabilities. Failure to provide proper training could result in the inability of a unit to accomplish its wartime tasking. Training requirements may be satisfied through Air Education and Training Command (AETC) resident, Training Detachment (TD), Maintenance Training Flight (MTF), Mobile Training Team (MTT), Air Force Institute of Technology (AFIT), Career Development Courses (CDC), Air Force Engineering Technical Services (AFETS), civilian institutions, Computer Based Training (CBT), Video Tele-Training (VTT), or any combination thereof. Commanders and supervisors are responsible for ensuring their personnel are properly trained. To do this, they must play an active role in the management of the training program. Guidelines for establishing and managing a training program are provided in this instruction; AFM 66-279, *Core Automated Maintenance System*; Air Force 40-, 50-, and 60- series publications; as well as AFI 36-2201, *Developing, Managing, and Conducting Training* and AFM 21-570, Vol II. *The Maintenance Training Flight (MTF)*, which is aligned under the 16th Logistics Support Squadron (LSS) for CONUS units and the Maintenance Training Section, which is aligned under the Logistics Support Flight (LSF) in the 352nd/353rd/16th Maintenance Squadrons (MXS), is responsible for and conducts MAJCOM-directed training programs.

5.2. Unit Training Managers (UTM). UTMs work with supervisors to plan, schedule, coordinate, and monitor QT, UGT, and military ancillary training. UTMs must plan and schedule effectively to prevent disruptions in maintenance production. UTMs also monitor the effectiveness of the unit in meeting training schedules and notify the commander and supervisors of training progress and scheduling effectiveness.

5.2.1. UTM Alignment. UTMs that support maintenance training will report to a single functional manager to ensure a centralized training focus. Both Helicopter and Aircraft Generation Squadrons (HGS and AGS respectively) and Maintenance Squadrons (MXS) earn UTM support from maintenance manning. All maintenance earned UTMs will be aligned under the LSS in the wings and in the MXS Logistics Support Flight (LSF) for 16 MXS and overseas units.

5.2.2. UTMs may be physically located anywhere within a wing/group that facilitates efficient customer service to the maintenance personnel and administers the squadron commanders training program.

5.3. Training Priorities. HQ AFSOC will set all training scheduling priorities as follows: **Priority #1**= Conversions, **Priority #2**= Overseas Units, **Priority #3**= Conus Units, and **Priority #4**= All others

5.3.1. Overdue Training. Individual recurring qualifications become overdue on the last day of the month in which recertification is due unless otherwise specified in Air Force directives. When an individual is TDY, on leave, or incapacitated, that person need not be decertified provided the required evaluations are completed within 30 days of the member's return to duty, not to exceed 2 calendar months from original due date.

5.3.2. Upgrade Training Waivers. See comprehensive guidance for training waivers in AFMAN 36-2108, *Airman Classification* and AFI 36-2101, *Classifying Military Personnel*.

5.4. Command Formal Training Program. The Command Formal Training Program consists of AETC Annual Screening, MTF Training, and Command Enroute PCS Training. HQ AETC programs formal courses through the annual screening process. When local MTFs or AETC TDs do not possess a training capability, completion of wing approved AFETS conducted training is considered equal to MTF courses. AFETS developed courses will not duplicate existing local MTF courses. AFETS course documents must be approved by HQ AFSOC/LGMMT. HQ AFSOC/LGMMT obtains and schedules command enroute PCS training. Enroute PCS training has priority over local training. HQ AFSOC/LGMMT will schedule non-AFSOC personnel for training on an AFSOC weapon system upon request from the assigned MAJCOM. Overseas units must review individual MPF allocation briefs to identify appropriate training needed to maintain a balance of skilled personnel throughout the maintenance complex. Notify HQ AFSOC/ LGMMT of required training at least 120 days prior to the "report not later than date" (RNLTD).

5.5. Aircraft Installed Engine Run Training. This section establishes policy and criteria for training and qualifying maintenance personnel to operate aircraft installed engines. Submit requests for waivers to this policy through command channels to HQ AFSOC/LGM.

5.5.1. All maintenance personnel qualified to operate aircraft installed engines are qualified IAW AFI 11-218, *Aircraft Operation and Movement on the Ground*, and this instruction. This includes aircraft marshalling, which requires recertification on an annual basis.

5.5.1.1. For fixed wing aircraft, train and certify maintenance personnel to operate engines at maximum power in accordance with applicable technical data for type and model aircraft.

5.5.1.2. For vertical lift aircraft, maintenance personnel are not authorized to operate installed engines above ground idle and are not permitted to start and run-up vertical lift aircraft that will not operate without rotor or CV-22 prop-rotor rotation.

5.5.1.3. Qualifications are valid for 12 months unless disqualified for cause. Overseas units must monitor the DEROS of engine-run qualified personnel and request engine-run training for inbound personnel as required (ideally for the same month as the loss). Forward requests for engine run training to HQ AFSOC/LGMMT as early as possible, but

no later than 120 days prior to reporting month. HQ AFSOC/LGMMT will review projected gains and coordinate with CONUS units to schedule engine run training.

5.5.2. Prior to entering engine run training, ensure personnel meet the following requirements:

5.5.2.1. Possess a minimum of a five skill level.

5.5.2.2. Qualified to operate APU, GTC/ATM, or APP as applicable.

5.5.2.3. Qualified in aircraft marshalling.

5.5.2.4. Possess at least 12 consecutive months experience on C-130 aircraft to include at least 60 days experience on the specific SOF mission design series (MDS) for which engine run training is required. (Experience must have occurred immediately prior to course enrollment).

5.5.2.5. Completed all applicable courses.

5.5.2.6. Qualified and certified as a tow brake operator.

5.5.2.7. Qualified in basic radio and interphone systems operation.

5.5.3. Simulator or Cockpit Procedures Trainer (CPT) requirements for engine run qualifications are as follows:

5.5.3.1. On fixed wing aircraft, simulator or CPT training is mandatory for initial engine run qualification and initial certifying official qualification.

5.5.3.2. On rotary wing aircraft, simulator or CPT training is not required for initial engine run qualification.

5.5.3.3. Simulator or CPT training is not required for initial engine run qualification on any APU, GTC, or APP used within AFSOC.

5.5.3.4. Annual certification of engine run maintenance personnel may be conducted either in the simulator, CPT or aircraft.

5.5.4. Maintenance personnel will perform the following actions prior to being engine run certified or recertified:

5.5.4.1. Complete the engine run training program (as seen in this section). This training includes both academic (Phase I) and practice (Phase II) instruction utilizing the simulator or CPT. For those aircraft that do not have a simulator or CPT, provide power-off and power-on practice in

the aircraft. Satisfactorily complete Phase I and II, in formal engine run class, prior to taking the written test in the Maintenance Training Flight or Section (as applicable) office.

5.5.4.2. Obtain a passing score on applicable engine run written or computer-based closed book examination (see figure 9.1.). A minimum passing score of 100 percent is established for emergency procedures. A passing score of 80 percent corrected to 100 percent is established for normal procedures and limitations. One of the C-130 aircraft engine run examinations contains the operational limits for both the T56-7 and T56-15 engines. An individual who obtains a passing score may be qualified on either of these type engines. Do not administer on-aircraft practical examinations until the examination is satisfactorily completed. Failing to achieve a minimum passing score will require further training as determined by the supervisor prior to retesting. The trainee will not retest with the same test used for the initial attempt.

5.5.4.3. Trainees will demonstrate their proficiency to run engines to trainers and certifying officials. Demonstration will include proficiency in normal and emergency procedures, communications procedures, knowledge of warnings, cautions, notes, and local operating instructions as well as memorization of boldface emergency procedures and accomplishment of the appropriate checklist. They will demonstrate satisfactory performance in supervising, briefing, and coordinating the run-up crew. A certification official will conduct an oral, practical evaluation which the trainee must complete to the certifier's satisfaction. The trainee will successfully complete a taxi orientation which is required for all initial fixed-wing engine run certifications. This will be accomplished using a visually modified simulation or in the aircraft supervised by an instructor pilot. Failure to demonstrate proficiency during the practical evaluation will require further training based upon the certifying official's determination of deficiencies. Upon successful completion of the additional training, the trainee is reevaluated by a certifying official.

5.5.5. Only qualified seven- and nine-level maintenance personnel (AFSCs 2A5XX, 2A6XX, CEMs 2A300 and 2A600), Air Force Engineering and Technical Services (AFETS) and Contractor Facility Support (CFS) personnel, and aircrew members, qualified IAW AFI 11-218 and AFI 11-218, AFSOC Supplement 1, and approved by the squadron senior maintenance officer, are authorized to train maintenance personnel on engine runs.

5.5.6. Certifying officials are restricted to AFETS personnel, maintenance personnel in the grade of master sergeant, 7-level or above (AFSCs 2A5XX, 2A6X1), and designated instructor pilots. Maintenance certifying personnel will be qualified in accordance with AFI 11-218 and this instruction prior to being authorized to perform as a certifying official. Selection is determined by the group commander. Highly qualified technical sergeants recommended by the unit commander or squadron senior maintenance officer may be waived by the group commander. Annual requalification of maintenance certifying officials will be accomplished in the simulator or CPT when appropriate simulators or CPTs are available on station. If simulators or CPTs are not available on station, certifying officials may be requalified by aircrew Stan-Eval members (designated by the appropriate group commander), however, at the next annual requalification date the certifying official must attend simulator or CPT training prior to being requalified. Certification will be in accordance with paragraph 5.5.4. of this instruction.

5.6. Aircraft APU, GTC, or APP Operation Training. The following requirements and standards apply to qualifying maintenance personnel on operating the aircraft APU, GTC, and APP:

5.6.1. A primary 3-level or higher maintenance AFSC is required for operating the APU, GTC/ATM, or APP.

5.6.2. When conducting initial operator qualification training for APU, GTC, or APP, use the applicable video or other training program when available. The LSS, QA offices, and the maintenance flights overseas will coordinate development of a test. This test will include system operation and limitations, emergency, fire fighting, and communication procedures. This test will then be forwarded to HQ AFSOC/LGMMT for coordination and approval by functional managers.

5.6.3. The APU/GTC test will consist of a minimum of 25 questions (5 on emergency procedures and 20 normal operation and limitation questions). The APP test will consist of a minimum of 10 questions. A minimum score of 100 percent is required for emergency procedures. A minimum passing score of 80 percent corrected to 100 percent is required for normal procedures and limitations. Personnel must then accomplish an on-equipment practical evaluation for certification completion. Recertification is required annually, IAW AFI 11-218, *Aircraft Operation and Movement on the Ground*.

5.7. Engine Test Facility Operator Training. Individuals must meet the following requirements to be authorized to start, operate, or test engines installed in field level test bed facilities:

5.7.1. Must possess AFSC 2A671B or higher, or equivalent for AFETS and civil service personnel.

5.7.2. Be thoroughly familiar with all applicable technical data for the facility and engine involved.

5.7.3. Receive training from a certified Test Facility Operator in starting and operating procedures for both the facility and engine to include emergency shutdown and fire fighting.

5.7.4. Satisfactorily complete a written examination on the facility, engine system, and emergency procedures. A minimum score of 100 percent correct is required for emergency procedures. A minimum passing score of 80 percent corrected to 100 percent is required for normal procedures and limitations.

5.7.5. Demonstrate individual proficiency to a designated test cell operator certifying official (2A671X or above).

5.7.6. Requalify annually on both the written test and practical requirements.

5.8. Helicopter Generation Training. Squadron commanders will, if tasked by a design operational capability (DOC) statement to perform helicopter generation for C-5 or C-17 airlift purposes. Establish a comprehensive training program to ensure a sufficient number of adequately manned teams are identified, organized, trained and proficient in all helicopter tear-down, buildup, and all associated tasks. Teams will support on and off station preparatory requirements. Units may tailor their training program and methods of assessment to best meet unique mission requirements and individual circumstances.

5.8.1. Initial training and annual recertification must be accomplished as a minimum, and will be tracked and documented in CAMS.

Chapter 6

AIRCRAFT MAINTENANCE COORDINATION CENTER

6.1. Aircraft Maintenance Coordination Center (AMCC). The AMCC is a function within the Wing Command Post. In the 353 SOG and 16 MXS the AMCC is located in the Logistics Support Flight. In the 31 SOS the AMCC is located in the Sortie Generation Flight. The primary objective of AMCC is to monitor the use of maintenance resources, the implementation of the flying schedule, and the accomplishment of aircraft maintenance. The AMCC also coordinates resources that are used by the entire logistics group aircraft maintenance complex. This may include fuel cell repair facilities, wash racks, hangars, and dispatched specialists from the logistics group. AMCC is responsible for the following:

6.1.1. Develop, maintain, and implement, when required, procedural check sheets for emergency, disaster response, and emergency action requirements.

6.1.2. Maintain status and location of each aircraft that is maintained or supported by the wing or applicable MXS.

6.1.3. Report mission capable status of aerospace vehicles and equipment IAW AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*.

6.1.4. Request support services, such as fire fighting, petroleum/oil/ lubricants (POL), civil engineer support, or control tower clearances for ground movement of aircraft and equipment.

6.1.5. Prepare aircraft condition projections for reporting IAW AFI 10-201, *Status of Resources and Training System (SORTS)*.

6.1.6. Notify appropriate agencies of severe weather warnings.

6.1.7. Keep Logistics Readiness Centers (LRC)/Logistics Operations Centers (LOC) apprised of aircraft status.

6.1.7.1. AMCC will be the primary focal point for all HQ AFSOC/LRC support requests requiring maintenance support. AMCC will coordinate with the appropriate maintenance units to form maintenance recovery teams that will effect recovery of AFSOC mission aircraft. AMCC will follow guidance in AFSOCI 21-108 for supporting non-mission capable aircraft away from home station.

6.1.8. Coordinate changes to the flying schedule with applicable agencies by use of AF Form 2407, **Weekly/Daily Flying Schedule Coordination**.

6.1.9. AMCC accomplishes the loading of daily or weekly flying schedule deviation reporting into CAMS.

6.1.10. Maintain cannibalization (cann) log and associated data inputs. (Cann numbers are assigned at unit level upon Work Center Event (WCE) creation. The AMCC verifies the cann number has been entered into CAMS as required and maintains it in the cann log).

6.2. Communications. Equipment must be of the highest quality and reliability. All users must be familiar with AFI 33-106, Volume 1, *Managing High Frequency Radios, Land Mobile Radios, and the Military Affiliated Radio System (MARS)*. Radio nets and call signs used in maintenance are determined jointly by the group commanders. Ultra high frequency (UHF) and/or very high frequency (VHF) radio access is authorized to provide aircraft-to-AMCC communications. Advance status information should be relayed by the aircrew to AMCC. Maintenance notification codes are listed below:

6.2.1. ALPHA 1 - Aircraft fully mission capable, no significant discrepancies.

6.2.2. ALPHA 2 - Aircraft or system has minor discrepancies, but is capable of further mission assignment within normal turnaround times.

6.2.3. ALPHA 3 - Aircraft or system has major discrepancies in mission essential equipment that may require extensive repair or replacement prior to next mission.

6.2.4. ALPHA 4 - Aircraft or system has suspected or known radiological, nuclear, biological or chemical contamination.

6.2.5. ALPHA 5 - Aircraft or system has suspected or known battle damage.

6.3. Transient Aircraft. AMCC keeps the status and location of all transient aircraft. The status may be maintained on a status board, sheet, log, or by other suitable means. When a transient aircraft experiences a mission limiting condition, the AMCC notifies the theater LRC or the possessing unit of the status and subsequent status changes.

Chapter 7

QUALITY FORCE

7.1. Quality Assurance. Quality maintenance is the responsibility of individual maintenance technicians, supervisors, and commanders. The function responsible for promoting quality maintenance processes within the organization is the QA Office. QA offices report directly to the logistics (SOG/CC for overseas units) group commander. The 16 MXS QA Section is located within the Logistics Support Flight and also reports to the logistics group commander. Inputs into the Quality Assurance Program (QAP) are forwarded directly to 16 LGQ. The roll of QA is to develop, facilitate, and oversee quality maintenance processes throughout the maintenance organization. QA will also manage critical programs for the group commander that are better managed in a centralized manner. QA will provide technical support to all maintenance activities and is the focal point for maintenance quality. In addition to the guidance outlined in AFI 21-101, QA will have the following responsibilities.

NOTE: The 353 MXS/CC may delegate select responsibilities to the 31 SOS QA Flight as required to support the overall mission of the 353 LGQ. These responsibilities shall be clearly defined and communicated through any suitable media in coordination with the 31 SOS/CC and MA respectively. Provide a courtesy copy to HQ AFSOC/LGMW/LGMM and 353 SOG/CC.

7.1.1. Coordinate a quarterly quality meeting with group commanders. The purpose of the meeting is to discuss quality trends and provide a forum for cross-tell among squadrons.

7.1.2. Manage the functional check flight program when directed by the group commander (see paragraph 7.8).

7.1.3. Assist the group/squadron commander in the development of publications prescribing local policies and procedures.

7.1.4. Act as the focal point and manage the wing product improvement program, technical order improvement requests, and deficiency reporting.

7.1.5. Manage the weight and balance program when directed by the wing or group (as required) commander (see paragraph 7.3.).

7.1.6. Review local proposed work cards, checklists, and job guides for the wing (see paragraph 7.2.).

7.1.7. Maintain a Technical Order Distribution Office (TODO).

7.1.8. Assist the LSS (or LSF, if applicable) by distributing TCTOs to applicable squadron TCTO monitors.

7.1.9. Develop a program that evaluates selected tasks as determined locally and establish the frequency of evaluations for a given task.

7.1.10. Perform assessments, evaluations, and activity inspections.

7.1.11. Act as the group point of contact for all safety related incidents and findings such as unfavorable condition reports, lost tool reports, individual safety violations and so forth.

7.1.12. (31 SOS only) Manages helicopter vibration program and trend analysis.

7.1.13. Act as the point of contact for wing/group maintenance FOD prevention program IAW AFI 21-101, *Maintenance Management of Aircraft* and AFI 91-204, *Investigating and Reporting US Air Force Mishaps*.

7.1.13.1. OPR for wing/group FOD operating instruction.

7.1.13.2. Investigate all FOD related incidents IAW AFSOCI 21-106 and AFI 91-204.

7.1.13.3. Route findings to wing/group safety, LG/MXS CC, and affected units for review and action (if required). Information copies will be sent to HQ AFSOC/LGMW for dissemination to functional managers for inclusion in the appropriate unit crosstel product.

7.1.14. AFSOC FOD Prevention Program. This section establishes policy and standardizes procedures for unit FOD Prevention Programs. Most FOD incidents can be attributed to poor housekeeping and improper maintenance practices. An effective FOD prevention program will identify potential problems before damage to equipment or injury to personnel occurs. Requirements stated here will be identified as such.

7.1.14.1. The FOD program manager will:

7.1.14.1.1. Forward FOD program manager appointment letter to HQ AFSOC/LGMW.

7.1.14.1.2. Establish an effective FOD prevention program. At a minimum, the basic elements of the program must encompass training, housekeeping, tool control, control of personal items, control of hardware and consumables, incident investigation/reporting procedures, and hazardous material control.

7.1.14.1.3. Identify base agencies and subordinate units essential to FOD prevention. Ensure these organizations provide representatives to FOD meetings.

7.1.14.1.4. Monitor for possible FOD trends and take corrective action.

7.1.14.1.5. Identify location and responsible organizations for foreign object sweeps.

7.1.14.2. Preventive Maintenance Practices. FOD prevention is everyone's responsibility during all phases of maintenance. The following are mandatory throughout AFSOC and will aid in eliminating FOD:

7.1.14.2.1. Comply with procedures in prescribed technical orders.

7.1.14.2.2. Practice good housekeeping.

7.1.14.2.3. Ensure no personal tools are used for on or off equipment maintenance of aircraft, aircraft parts, or aircraft related support equipment.

7.1.14.2.4. Account for all tools, hardware, safety wire, components, and equipment at the end of each task, including expendable items. Certify accomplishment by annotating AFTO Form 781A.

7.1.14.2.5. Use x-ray, borescope, and other state of the art equipment to inspect inaccessible areas.

7.1.14.2.6. When physical entry is required into engine intakes, fuel tank areas, or other critical FOD areas, wear coveralls without pocket and buttons and remove all loose objects, badges, jewelry, etc., from clothing.

7.1.14.2.7. Perform engine intake and exhaust inspections before and after each engine run.

7.1.14.2.8. Install intake plugs prior to performing any maintenance in or around engine intakes unless the maintenance action requires the removal of the plug, i.e. engine inlet repair.

7.1.14.2.9. When vehicles are operated on unimproved road surfaces (dirt, loose gravel, etc.) or surfaces that have foreign objects, visually inspect tires prior to operation in flight line areas.

7.1.14.2.10. When inspecting -21 alternate mission equipment, non-powered AGE or powered ground SE, and vehicles used on the flight line, place special emphasis on detection of foreign objects.

7.1.14.2.11. Use aircraft plugs and covers to the maximum extent possible.

7.1.14.2.12. Launch crews will perform foreign object inspections of the aircraft parking spot before and after aircraft arrival and departure.

7.1.14.2.13. Install C-130 throttle quadrant cover prior to performing maintenance on the flight deck. This requirement is waived when maintenance is required in or on the quadrant and when various operational checks dictate access to the quadrant. (Not applicable for rotary wing aircraft).

7.1.14.2.14. Any time maintenance is performed, applicable aircraft system openings, ports, lines, and ducts must be plugged or capped IAW applicable technical data to prevent entry of foreign objects into the system.

7.1.14.3. Training. The primary objective of FOD training is increased awareness of the cause and effect of FOD and to promote active involvement in FOD prevention. Training subjects should include:

7.1.14.3.1. Housekeeping.

7.1.14.3.2. Control of tools and hardware.

7.1.14.3.3. Control of personal items, equipment, and consumables.

7.1.14.3.4. Flight line, taxiway, and ramp FOD control methods.

7.1.14.3.5. Reporting FOD.

7.1.14.4. Housekeeping. Maintenance and operational areas must remain clean to prevent FOD. Ensure maintenance and operational areas remain clean and meet good housekeeping standards. Ensure that grounds and surfaces on which aircraft and ground support equipment are operated and maintained are free of foreign objects. Taking a few minutes of extra time to comply with approved housekeeping requirements will help to eliminate foreign object ingestion into engines and other aircraft systems as well as reducing the risk of personnel injury or death. This includes sweeping and vacuuming of ramp and production areas.

7.1.14.5. Tool and Hardware Accountability. Work centers must ensure that tool and hardware control procedures are followed to prevent FOD incidents.

7.1.14.5.1. Individuals shall account for all tools (including expendable items), common hardware, safetywire, and components after completing each maintenance task. During on-equipment maintenance, certify accomplishment by entering employee number on dotted line in corrective action block of AFTO Form 781A after "Tool and FOD check complied with" statement.

7.1.14.5.2. Lost Items. Anytime an item is lost, stop all activity in the area and initiate a search for the lost item. Continue the search until the item is found or it is determined that the item is not located in or around the aircraft, engines, machinery, or other assemblies.

7.1.14.6. Hazardous Materials. Consult local, state, and federal hazardous materiel procedures for proper storage and disposal.

7.1.14.7. FOD prevention programs must be tailored to fit the needs of each individual organization. When establishing FOD programs, base the content of the program on the employment of the specific type of aircraft and support equipment, and particular production and

operational environments. Keep in mind that contingencies could result in a variety of aircraft from other services, commands, or units using ramp or hangar space at your location. Some present unique problems concerning FOD prevention.

7.1.15. This section establishes policy for Dropped Object Prevention and Reporting and applies to all assigned aircraft.

7.1.15.1. Establish a Dropped Object Program (DOP) in accordance with AFI 21-101 at wing level focusing on preventing loss of objects during flight.

7.1.15.2. The MAJCOM functional managers will act as OPR for all dropped object field inquiries.

7.1.15.3. Reporting of dropped objects must be timely, accurate, and is a combined operations and maintenance responsibility. Do not delay reporting all dropped objects to the appropriate Command and Control (C2) agency. Proper reporting procedures are as follows:

7.1.15.4. Initial. Initial dropped object reporting will be IAW AFM 10-206, *Operational Reporting* and AFM 10-206 AFSOC Supplement 1 by local command post. In addition, the wing/group dropped object monitor notifies the wing/group safety office of all dropped objects.

7.1.15.5. Quarterly. The wing DOP monitor will report all dropped objects that occurred during the previous quarter to HQ AFSOC/LGMW by the 15th of the first month following the quarter in message format. Negative replies are required. The information provided will include:

7.1.15.5.1. Mission design series (MDS)

7.1.15.5.2. Aircraft tail number

7.1.15.5.3. Owning organization and base

7.1.15.5.4. Date of incident and discovery location if different than origin sortie

7.1.15.5.5. Item, noun, and description

7.1.15.5.6. T.O., figure, and index

7.1.15.5.7. Correct work unit code (5 digit)

7.1.15.5.8. Cost in dollars to repair or replace as appropriate and cost in man-hours to repair

7.1.15.5.9. Action taken to prevent recurrence

7.1.16. Develop a program that gives the group commander a view of how well maintenance is being performed and the condition of aircraft and equipment. This is accomplished through

random sampling of maintenance in-progress and completed. AFSOC Form 24, **Quality Services Evaluation and Inspection**, will be used for manual documentation. Each organization (logistics group level, or equivalent) will publish scoring criteria for evaluations. All evaluations listed below will be done in sufficient numbers to ensure accurate statistical analysis.

7.1.16.1. Task Evaluations. A task evaluation is an evaluation of an action performed by a technician or supervisor. Task evaluations are conducted to evaluate job proficiency, training effectiveness, and technical data compliance.

7.1.16.2. Technical Inspections. A technical inspection is an inspection of aircraft and equipment following a maintenance action/inspection. The purpose of a technical inspection is to verify that the action/inspection was properly completed according to prescribed inspection workcards or technical data.

7.1.16.3. Special Inspections. A special inspection is one initiated by higher headquarters, a system manager, group commanders or QA. This inspection covers any maintenance operation or action involving personnel, equipment, or facilities. This type of inspection may be condition or procedure oriented. It is normally a one-time inspection, but may be continued over a period of time until the problem has been resolved.

7.1.16.4. Safety Inspections. Safety hazards or non-compliance with AFOSH standards will be documented as NOT-RATED safety inspections. Safety inspection discrepancies will be corrected on the spot or as soon as possible to prevent personal injury and damage to aircraft or equipment.

7.2. Local Work Cards, Checklists, and Job Guides. Local workcards, checklists, and job guides may be developed when additional requirements are deemed necessary due to complexity of equipment or safety. They will not normally be published for common organizational equipment, e.g., hydraulic servicing carts, jack trailers, composite tool kit transportation trailers, locally manufactured handling dollies, etc. This equipment is usually simple enough in construction that local work cards, checklists, or job guides are not warranted. In addition to T.O. 00-5-1, *Air Force Technical Order System*, comply with the requirements below.

7.2.1. All proposed work cards, checklists, and job guides should be screened for accuracy, technical content, intent, necessity, and needless duplication prior to being approved. Once established, validation of currency will be performed and documented at least annually. Offices of responsibility will be assigned by the LG/CC, or equivalent, in a local publication, reference T.O. 00-5-1, AFSOC Supplement 1.

7.2.2. If civilian contractors are used, the validation/verification process may be waived in lieu of a government approved Technical Manual Quality Assurance Plan. This plan requires the contractor to "proof" text and procedure prior to submission for acceptance by the Air Force.

7.2.3. For work cards, use AFTO Form 26, Aircraft Inspection Work Card, and for the cover use, AFSOC Form 26, **Inspection Work Card Cover**.

7.2.4. For checklists, use AFSOC Form 30, **Equipment Checklist**, and for the cover, use AFSOC Form 29, **Equipment Checklist Cover**. The cover sheet will reflect the purpose of the checklist and conditions under which it is used.

7.2.5. File locally established work cards, checklists, and job guides in the same manner as Air Force established work cards, checklists, and job guides IAW T.O. 00-5-2, *Technical Order Distribution System*.

7.2.6. Forward local work cards, checklists, and job guides through command channels to HQ AFSOC/LGM for possible adoption command wide.

7.3. Weight and Balance. Responsibility for the weight and balance program is assigned to the LG. The nature of this program necessitates that it remain centralized. Wing or group commanders (as required) determine where weight and balance responsibilities are assigned; it is highly recommended that they are assigned to QA. The weight and balance authority is responsible for compliance with appropriate TOs for weighing aircraft and maintaining required documents. The weight and balance authority will:

7.3.1. Store and maintain primary handbooks for each aircraft assigned. Ensure supplemental handbooks (stored on the aircraft) are updated as required.

7.3.2. Coordinate with appropriate units for assistance in the preparation and weighing of aircraft.

7.3.3. Ensure sufficient personnel are qualified as weight and balance technicians for assigned aircraft. This includes completion of the general weight and balance course and certification by a local weight and balance authority IAW T.O. 1-1B-50 paragraph 4-5b, Weight and Balance.

7.3.4. Ensure weight and balance inventories are accomplished on newly assigned and released aircraft and that documents are verified for accuracy.

7.3.5. Ensure procedures are established that provide for the routing of completed TCTO and modification information for weight and balance changes. Ensure handbooks are updated as required.

7.4. Modification and Configuration Management. Aircraft configuration must be strictly controlled. Units will manage the configuration of aircraft in accordance with the following guidelines:

7.4.1. Aircraft Modification. Any change to the approved configuration baseline requires written approval from the appropriate Single Manager (SM) after AFSOC Configuration Control Board (CCB) approval. Units are not authorized under any circumstances to modify an aircraft without proper approval.

7.4.1.1. Modification Proposal Procedures. Units will initiate modification proposals using an AF Form 1067, **Modification Proposal**. Use one AF Form 1067 per Mission Design Series (MDS). After unit commander approval, submit the AF Form 1067 to HQ AFSOC/LGMX for CCB processing. Initial AFSOC CCB approval of modification proposals does not constitute authorization for implementation. MAJCOM approved AF Form 1067s along with any attachments are forwarded to the appropriate SM for engineering feasibility appraisal and budgetary cost information.

7.4.1.2. Classes of Modifications. There are three classes of modifications which are authorized for Air Force systems.

7.4.1.2.1. Temporary--1 (T-1). T-1 modifications temporarily change, add or remove equipment to provide increased capability for a special mission. T-1 modifications are normally made by the using command for operational reasons, and are not used as substitutes for permanent modifications. T-1 modifications are subject to the following limitations:

7.4.1.2.1.1. Equipment for T-1 modifications must be obtained from DoD stock and supply sources with no additional procurement required to replenish supply.

7.4.1.2.1.2. Equipment for T-1 modifications must have the ability to be changed back to the original configuration within 48 hours.

7.4.1.2.1.3. Equipment for T-1 modifications must require no logistics support such as technical data, software or major engineering support, spares, support equipment, etc., not already in the DoD logistics system.

7.4.1.2.1.4. Removed equipment will not be returned to stock and is accountable according to AFI 21-103.

7.4.1.2.1.5. T-1 modifications will not be maintained on the system for more than one year, without a waiver from the SM. Contact HQ AFSOC/LGMX for waiver procedures.

7.4.1.2.2. Temporary--2 (T-2). T-2 modifications are temporary modifications required to support research, development, test and evaluation (RDT&E), in-service testing of potential replacement items (form, fit, and function) and for aircraft and stores compatibility testing. They are usually done to selected set of operational or test systems to evaluate a proposed permanent modification or to test in an operational environment operational suitability including reliability and maintainability of a form, fit, and function potential replacement item. T-2 modifications are subject to the following limitations.

7.4.1.2.2.1. All hardware procurements must be made using RDT&E or other suitable appropriations, to be requisitioned from Air Force stock inventory, or be initial kits purchased from an approved acquisition program's production funds to do a trial installation and qualification test and evaluation (QOT&E) or initial operational test and evaluation (IOT&E).

7.4.1.2.2.2. T-2 modifications will not normally be done unless an approved Air Force or AFSOC program requires the test.

7.4.1.2.2.3. T-2 modifications will not be maintained on equipment for longer than the approved test program requires. Certain exceptions apply. Contact HQ AFSOC/LGMX to determine if you have a valid exception.

7.4.1.2.2.4. No more than five aircraft, pods, support equipment end items, simulators or other configuration items may be modified on a temporary basis without a waiver from HQ USAF/LGM.

7.4.1.2.3. Permanent (P). These modifications make permanent changes to correct safety or materiel deficiencies, improve reliability and maintainability, or add to or remove capability.

7.4.1.2.4. Permanent--Safety (P-S). Safety modifications are permanent modifications which correct materiel or other deficiencies, per T.O. 00-35D-54, *USAF Deficiency Reporting and Investigating System*, which could endanger personnel or cause loss or extensive damage to systems or equipment. Special procedures and conditions apply to safety modifications. Contact HQ AFSOC/LGMX for special procedures.

7.4.1.3. Installing modifications. For temporary modification proposals, HQ AFSOC/LGMX forwards the SM engineering approval/disapproval notification letters to the originator. The SM letter may contain additional conditions required to implement a temporary modification. File the AF Form 1067 and SM approval letter in the aircraft forms binder while the modification is installed on the aircraft. To accomplish permanent modification proposals, the SM will issue a TCTO to document all permanent modifications to standard Air Force equipment.

7.4.2. Physical Configuration Audits (PCAs). (See paragraph 7.4.1.1.) For MDSs that have an approved configuration baseline (either complete or partial), QA will conduct a PCA at every other Isochronal, Phased, or Periodic Inspection and when possession of an aircraft is transferred between units.

NOTE: The PCA should not impede the inspection process. Both gaining and losing units will conduct the PCA for aircraft being transferred. No configuration audits are required on MDSs for which no approved configuration baseline exists. Other than part number disparities, variations from the approved baseline requires immediate resolution of the variation by removal or reconfiguring or by documentation through the modification process defined in DODI 5000.2, AF Sup 1. If the unit initiates a modification proposal to document a variation, the unit is not required to remove or reconfigure the variation unless the modification proposal is disapproved. Modification proposals are initiated from the unit discovering the disparity by preparing AF Form 1067 (see paragraph 7.4.1.1.) and submitting it to HQ AFSOC/LGMX.

7.5. Aircraft Programmed Depot Maintenance (PDM) Input. Aircraft will transfer to PDM with minimum required basic and dash 21 equipment installed, except unit survival equipment (survival vests, parachutes, etc.), as listed in a unit coordinated checklist and AFSOCR 55-15,

Aircrew Life Support Program, Chapter 6. Coordinate your checklist with HQ AFSOC/LGMW functional counterpart. Additionally, aircraft departing for PDM from an overseas location require one each 20 man life raft to be installed. The losing unit will be responsible for all life support equipment needed for delivery/pickup of aircraft. Also, equipment for all currently approved modifications should be installed. All aircraft systems should go into depot/PDM completely operational as well. If not, this may prevent adequate checkouts after PDM. QA will perform a transfer inventory prior to departure.

7.5.1. Required PDM Input Conditions. Units must send all aircraft systems components installed and operational. To facilitate input with operational systems, each unit should perform a pre-deployment systems check and repair defective components as required. The desired result is for all systems to be completely operational prior to depot input. If a component, system, or line-replaceable unit (LRU), is sent to the depot with minor discrepancies, or is inoperative, it will not be repaired unless coordinated with and approved by HQ AFSOC/LGMW to include AFTO Form 103, **Aircraft/Missile Condition Data Request Form**, documentation.

7.5.2. Aircraft Configuration Waivers. Waivers to clearly established policy and procedure requirements contained in AFI 21-103 and T.O. 00-20-1 will be handled on a case-by-case basis by HQ AFSOC/LGMW.

7.6. Deficiency Reporting. Deficiency reporting is designed to improve readiness, combat effectiveness, safety, and reliability of operational weapon systems. QA is the office of primary responsibility for deficiency reporting. This includes technical order improvement reporting (T.O. 00-5-1), Source Maintenance and Recoverability (SMR) coding of AF weapons systems and equipment (T.O. 00-25-195), deficiency reporting and investigating (T.O. 00-35D-54), and product improvement program reporting (AFI 21-118). QA assists units in technical order improvement reporting. In addition:

7.6.1. Maintain an AFTO Form 22, **Technical Order Improvement Report and Reply**, suspense file. Keep approved AFTO Forms 22 until they are incorporated into the technical orders. Except for approved AFTO Form 22 waiver reports, approved AFTO Forms 22 do not constitute authority to deviate from established technical data.

7.6.1.1. Ensure the logistics group commander or designated representative, usually QA, signs all AFTO Forms 22.

7.6.1.2. Send all AFTO Forms 22, through command channels, to appropriate agencies IAW T.O. 00-5-1. AFTO Forms 22 concerning explosive ordinance disposal (EOD) procedures (60-series technical orders) are processed by base EOD rather than QA.

7.6.1.3. If AFTO Forms 22 or deficiency reports are returned disapproved, conduct a critical review to determine if they should be resubmitted or rebutted and if more information could be added.

7.6.2. QA ensures SMR code change requests are properly completed and processed. In addition:

7.6.2.1. Track the status of SMR code change requests using a locally developed form or AF Form 3136, **General Purpose form**.

7.6.7. Inform LG/CC of all change requests on assigned equipment prior to being submitted.

7.6.8. QA assists units in deficiency reporting and tracks the status of reports. They are the OPR for all report submissions and interface with higher headquarters concerning report status.

7.6.9. QA assists units in product improvement reporting (see AFI 21-118, *Improving Aerospace Equipment Reliability and Maintainability*).

7.7. Quality Assurance Representative (QAR). If a Contractor Logistic Support (CLS) aircraft or Contract Field Team (CFT) is assigned, a QAR will be appointed. A QAR is the on-site government inspector and is the liaison between contractor and government personnel at each applicable base. Through administrative actions they coordinate, process, and review documents required to ensure successful implementation of the contract. They evaluate and certify the contractors' ability in fulfilling the requirements of the contract statements of work. They ensure contract deviations are properly documented and provided to the site manager for necessary corrective actions and coordination. Through system malfunctions or anomalies, the QAR determines the need for government requested special inspections. They may coordinate all requests for additional support for the contractor with the host and submit recommended contract changes through appropriate channels. They may review or coordinate on host-tenant support agreements affecting contractor support.

7.7.1. Special Operations Wing/Group commanders, 16 MXS/CC, and 31 SOS/CC will:

7.7.1.1. Appoint a QAR. For CLS aircraft, the QAR will attend contract familiarization and airframe familiarization courses. For CFT, the LG/CC (or equivalent) will determine the level of training based on the duration and complexity of the contract.

7.7.1.2. Forward a QAR letter of appointment to HQ AFSOC/LGM the appropriate ALC directorate.

7.7.1.3. Ensure services, equipment, materials, or other support are not provided to the contractor at government expense unless they are authorized in the statement of work or host-tenant support agreements.

7.7.1.4. Ensure contractor personnel are adequately trained in all local requirements to include but not limited to all applicable safety, environmental, and AFOSH standards.

7.7.1.5. Establish a Quality Plan (QP). The QP is the unit's written guidance to include, as an example; duties and responsibilities, inspections to be accomplished (as identified by the QAR), FCF procedures, Weight and Balance, impoundment, and training. These are examples only and are not all inclusive or required in all circumstances.

7.7.2. QAR Duties and Responsibilities:

- 7.7.2.1. Maintain an updated copy of the respective contract.
- 7.7.2.2. Maintain sufficient files to maintain an audit trail of all contractual and QAR functions.
- 7.7.2.3. Familiarize themselves with applicable maintenance manuals, safety manuals, contract requirements, and other required regulations to effectively perform all assigned QAR duties. PMR/ACMR's provide contractual updates and should be attended by QAR's.
- 7.7.2.4. Brief all affected personnel on contract requirements.
- 7.7.2.5. Contractor deficiencies will be documented on AF Form 714, **Customer Complaint Record**, or equivalent, as designated in the Quality Plan. Deficiencies, once documented, need only leave the base if satisfactory corrective action was not taken by the contractor and the QAR needs further assistance.
- 7.7.2.6. Coordinate on the Quality Plan and identifies specific inspections to be accomplished.

7.8. Functional Check Flights. Functional Check Flight (FCF) basic guidance and procedures are outlined in AFI 21-101. Additional requirements are addressed in the applicable dash 6 technical order, and T.O. 1-1-300, *Acceptance/Functional Check Flights and Maintenance Operation Checks*. Group Commanders will establish and implement local FCF procedures.

- 7.8.1. Functional check flight waivers must be approved by HQ AFSOC/LG/DO IAW T.O. 1-1-300, paragraph 4j.

Chapter 8

LOGISTICS GROUP

8.1. Logistics Group. The logistics group is assigned the responsibility of maintaining the wing's primary mission equipment and supporting the primary mission with material and resources. To maintain this equipment, the LG/CC manages and directs on and off-equipment maintenance through the procedures in this instruction and its allied publications effectively and efficiently accomplishing the wing mission. Functional responsibilities include planning, scheduling, controlling, and monitoring the use of assigned maintenance resources to meet the mission requirements. The LG/CC must provide the direction and guidance for subordinate maintenance activities to implement and comply with all higher authority directives, local maintenance policies, and technical instructions. In addition, the OG/CC must ensure maintenance capability is considered in the development of the flying program. This relationship must be continuously reviewed to ensure that a long-term balance between maintenance requirements and operational requirements is maintained. If not maintained, maintenance quality and the mission will suffer. The LG/CC is responsible for the following:

8.1.1. Managing the wing's maintenance training program to include course development, content, and application of ancillary and maintenance training activities.

8.1.2. Establishing wing procedures to reconcile training munitions issued for flightline requirements IAW AFI 21-208, *Munitions Forecast, Allocation, and Buy Budget Processes*.

8.1.3. Establishing a directive covering the manufacture of items not source coded local manufacture. Include coordination requirements and approval authority.

8.1.4. Developing and maintaining the wing Aircraft Battle Damage Repair (ABDR) program IAW AFI 21-101, *Maintenance Management of Aircraft*, AFSOCI 21-103, *Aircraft Battle Damage Repair (ABDR) Program*, and this instruction. If additional guidance is necessary, MOIs must be written to satisfy the need.

8.1.5. Managing the wing's Air Force and Contractor Engineering Technical Services (AFETS/CETS) program.

8.1.6. Developing Operating Instructions (OIs), Memorandums of Agreement (MOA), and/or Host-Tenant agreements to assign responsibilities when workloads effect multiple areas of functional control. This includes base support of on-site and visiting contractor and depot personnel, work load agreements between on base organizations, and multi-base agreements as required.

8.1.7. Establishing aircraft cannibalization procedures IAW T.O. 00-20-2, *Maintenance Data Collection*; AFI 21-101, *Maintenance Management of Aircraft*; and AFM 66-279, *Core Automated Maintenance Systems*, paragraph 2.2. This should be accomplished by developing an OI that clearly assigns responsibility, accountability, and authority for all cann actions.

8.2. Logistics Group Waivers.

8.2.1. Inspection Waivers. The LG/CC may approve waivers for performing scheduled inspections up to 30 days early. Over-fly of inspection due dates is authorized by 10 percent of a given scheduled inspection interval. For example, a C-130 Number 1 Isochronal Inspection interval is set at 365 days. The over-fly limit would be 10 percent of this figure, i.e. 36.5 days. This guidance is in accordance with T.O. 00-20-5/AFSOC Sup 1, paragraph 2-10, *Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspections, Flight Reports, and Supporting Maintenance Documents*. To exceed these limits, approval must be obtained from HQ AFSOC/ LGM.

8.2.2. Engine Time Change Waivers. The LG/CC may approve waivers for performing engine time change over-fly up to 10 percent or the next scheduled inspection (ISO, PE, or HSC) whichever occurs first. To exceed these limits, approval must be obtained through HQ AFSOC/LGM from the appropriate engine ALC engineering office IAW T.O. 2-1-18, *Aircraft Engine Operating Limits and Factors*.

NOTE: The 352 SOG/CC and 353 SOG/CC have the same waiver authority listed in paragraphs 8.2.1. and 8.2.2.

Chapter 9

LOGISTICS SUPPORT SQUADRON

9.1. Logistics Support Squadron (LSS). The LSS consists of four flights: logistics plans flight, maintenance operations flight, weapons standardization flight, and maintenance training flight. The maintenance operations flight provides engine management, scheduling, financial, personnel, and facility management for the logistics group. The weapons standardization flight manages the load standardization and load crew certification programs. (The LSS/CC approves all members that will be assigned to the load standardization crew). The maintenance training flight is the focal point for all maintenance related training requirements for the wing, including all maintenance personnel in the logistics group. In the 16 MXS, a Logistics Support Flight consisting of six sections: Maintenance Training, Quality Assurance, Analysis, Plans and Scheduling, Logistic Plans, and AMCC/Debrief perform all the functions of the LSS. The 16 MXS does not have a weapons standardization flight. For 352 and 353 SOGs only: The 352 and 353 MXS Supply Section is located within the Logistics Support Flight. The supply section manages the mobility readiness spares packages (MRSP), FX account, and performs maintenance supply liaison (MSL) functions. (The 352 MXS supply element monitors the 100 SUPS management of MSPR, FX account, MSL, MICAP and DIFM). MSL functions will include: MICAP management, backorder verification, and DIFM management. MRSPs will be managed IAW AFMAN 23-110.

9.2. Maintenance Operations Flight (MOF). The MOF is responsible for tracking aircraft engine status (time changes, special inspections, etc.), coordinating logistics group inputs to flying schedules, managing the Commando Gold program; coordination of wing flying and maintenance schedules; and wing analysis and database management functions. The MOF also provides managerial support in developing and maintaining programs (financial, manpower, and facilities management) applicable to the logistics group. Elements under the MOF include, but are not limited to, Engine Management, Commando Gold, Plans and Scheduling, Maintenance Analysis, and Resources.

NOTE: 16 MXS has their own Plans, Scheduling, and Documentation, engine management, and analysis sections that interface with their counterparts in the LSS.

9.2.1. Wing Plans, Scheduling, and Documentation (PS & D) NCOIC. The Plans and Scheduling NCOIC acts as the functional manager for all assigned maintenance schedulers and coordinates assignment and re-assignment of schedulers to units and between units respectively. Periodic movement of schedulers is necessary to prevent career knowledge stagnation, maintain broad-base job proficiency, enhance training quality, and to offset personnel shortages.

9.2.2. Wing PS & D Section. The LSS/CC, in conjunction with the P&S section, will develop and publish procedures to augment the specific guidance outlined in Chapter 10 of this instruction. These procedures will provide at least the assignment of responsibilities, methods of documentation, meetings required, planning considerations, and the frequency that plans and

schedules are to be published. P&S coordinates the integration of weekly squadron maintenance and flying schedules into a wing flying/maintenance utilization schedule. It manages the PDM program and manages the on and off (including commodities) equipment Time Compliance Technical Order (TCTO) and Time Change Item (TCI) programs. This section ensures optimum use of aircraft, support equipment, and other resources through planning. Consideration must be given to operational requirements, maintenance requirements, maintenance capabilities, availability of needed resources, and time requirements. The P&S section:

9.2.2.1. Coordinates and publishes plans and schedules for aircraft, facilities, and AGE (unless scheduled by the owning work center). Computer generated products may be used. When notified of a visit from an outside agency/company LSS P&S will coordinate with AGS, HGS, and MXS P&S (as required), maintenance, and operations representatives. This will ensure airframe availability.

9.2.2.2. Performs the aerospace vehicle distribution officer function in accordance with AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, and AFCSM 21-564, *Core Automated Maintenance System*. Maintains aircraft utilization (time) and possession status changes.

9.2.2.3. Develops, in conjunction with maintenance squadron schedulers, annual quarterly and monthly schedules including PDM, isochronal inspections, major TCTOs, exercise tasking, aircraft utilization, and other known or projected requirements.

9.2.2.4. Develops procedures and checklists for conducting Aircraft Forms Document Reviews for home station and deployed aircraft. Reviews will be conducted every 21 days. Additionally, document reviews will be required for the following reasons: aircraft transfers (temporary and permanent), PDM/OCM inductions, and contractor facility maintenance. Forms will be reviewed by the senior AMU/Squadron maintenance officer, Chief, or designated representative prior to transfer/induction. Checklists and supporting documentation for the last two reviews will be filed in the aircraft forms jacket file.

9.2.2.5. Develop procedures, checklists, and documents for AMU/Squadron/Engine Management scheduling sections to maintain and semi-annually, inspect aircraft/engine jacket files and all the records they contain. Inspections will be assigned a job-standard (JST) and tracked in CAMS as scheduled maintenance. The locally devised inspection document will show as a minimum, date inspection complied with, next due date, and signature of inspector.

9.2.3. Commando Gold Section. The Commando Gold Program is managed within this section. All unit Commando Gold initiatives are routed through the section for processing. General information, management procedures, and program duties and responsibilities are found in AFI 21-123 AFSOC Supplement 1, *Air Force Gold Program*. Section managers must consult AFI 21-123 AFSOC Supplement 1 for program guidance.

9.2.4. Maintenance Data Systems Analysis Section. Analysis is the primary management information source for the LG/CC. The primary objective of this function is to provide accurate

information used to improve operations and aid in the management decision-making process. This is accomplished by auditing various maintenance management output products for accuracy; identifying and reporting trends, ensuring database input processes are aligned properly with current guidance; and managing the CAMS. This office is the focal point for data base problems within the logistics group. Chapter 12 outlines responsibilities for the Maintenance Data Systems Analysis Section.

9.2.4.1. Assigns local work center codes and mnemonics within the framework provided within T.O. 00-20-2 and HQ AFSOC/LGMXA messages. Publish the codes in a local OI.

9.2.4.2. Produces a monthly message/metric product for MAJCOM that contains the number of scheduling deviations and their nature. This report is due NLT the fifth of the month following the month being reported.

9.2.5. Engine Management. Engine Management (EM) centralizes engine management, supply, and scheduling functions to support engine management. This includes coordinating scheduled engine removals and replacements, managing all AFI 21-104, *Selective Management of Selected Gas Turbine Engines*, reportable assets, managing Quick Engine Change (QEC) kit repair, performing engine manager duties, and monitoring shop scheduling. This also includes managing engine Time Change Items (TCI) and engine Time Compliance Technical Orders (TCTO), and maintaining engine records (installed and not installed). The engine manager is the custodian for engine assets assigned to the FJ SRAN account and must comply with duties and responsibilities set forth in AFI 21-104; AFMAN 23-110, *Excess Surplus Personal Property*; AFI 10-201, *Status of Resources and Training System (SORTS)*; and T.O.s 00-25-254-1 and -2, *Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures*, and, *Comprehensive Engine Management System Manual for DSD:DO42*, respectively; as well as managing the SRAN account itself. The engine manager also acts as the single point of contact for reporting problems on the Comprehensive Engine Management System (CEMS). The EM chief will:

9.2.5.1. Ensure spare engine availability is reported IAW AFI 10-201 and T.O. 00-25-254-1.

9.2.5.2. Monitor time change parts requisitions and forecasts. Track the supply status on engines subject to Engine Not Mission Capable Supply (ENMCS) reporting.

9.2.5.3. Ensure manual and automated engine records are properly maintained and handled as outlined in T.O. 00-20-5, *Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspections, Flight Reports, and Supporting Maintenance Documents*, and MAJCOM supplements and directives. This includes ensuring files are up-to-date and proper documentation of forms and historical records on engines and propellers is accomplished. Significant historical data forms must be documented for maintenance accomplished on serially controlled items, modules and subassemblies, engines, gearboxes, and QEC kits as well.

9.2.5.4. Ensure a copy of all records are included with engines being shipped off-station TDY. For engines transferring to another unit: ensure the original records are mailed to the gaining unit

and that the losing unit retains a copy of the records for 6 months. Conflicts between this instruction, and T.O. 00-20-5 and T.O. 00-20-5-1-9, and their MAJCOM supplements will be decided in favor of the T.O.s and their supplements.

9.2.5.5. Ensure engine record reviews are conducted at engine removal and prior to installation. Review, as a minimum, will include reconciling CAMS data base, and manual or automated engine records to ensure accomplishment of scheduled and unscheduled inspection requirements.

9.2.5.6. Monitor and track engine induction into the Jet Engine Intermediate Maintenance (JEIM) section.

9.2.5.7. Ensure flow charts and production visual aids reflecting current end item status are maintained.

9.3. Maintenance Training Flight. The maintenance training flight or section (as applicable) is organized in the logistics support squadron or flight respectively. It normally consists of, but is not limited to, maintenance qualification, aircraft battle damage repair, instructional systems development, and training administration sections (or elements, if applicable). They are responsible for conducting the maintenance training program. This includes maintenance training support for all maintenance squadrons and monitoring the training AFETS has provided during their quarterly reporting period. To fulfill this responsibility, the maintenance training flight will ensure a continuous, well organized maintenance training program is set up throughout all maintenance units. Though the maintenance training flight is responsible for conducting the training program, this does not diminish the responsibility of the squadron commanders. Squadron commanders are still responsible for the squadron training program and ensuring maintenance personnel receive necessary training. HQ AFSOC/LGMMT is responsible for the overall command maintenance training program and the final approval authority for all MTF training. As a minimum, training management will:

9.3.1. Provide overall administration, control, and policy for the training program through coordination with the unit training activities, AETC training detachment, and supervisors of the maintenance activities.

9.3.2. Monitor and consolidate unit submission of annual screening for the AETC TDY to school program to ensure all valid requirements are identified IAW paragraph 5.4. of this instruction.

9.3.3. Manage the Maintenance Qualification Training (MQT) program (see paragraph 9.4.).

9.3.4. Administer the command engine run test program (see paragraph 5.7. and figure 9.1.).

9.3.5. Ensure assigned AFETS personnel develop a course outline for all formal/classroom training on each subject being taught in their area of expertise.

9.3.6. Manage and coordinate unit requests for maintenance training when support from outside the maintenance activities is required.

9.3.7. Set up training schedules with the 373 Training Squadron, Detachment 7, which limit impact to the maintenance production effort as much as possible. Ensure personnel and facilities such as classrooms, instructors, and training aids are available. Coordinate requirements with the function and other activities to ensure the availability of aircraft, AGE, and related support equipment. Forward the proposed monthly schedule to plans and scheduling no later than 15 days prior to the affected month. This enables training requirements to be incorporated into the monthly maintenance plan. Coordinate proposed changes to the schedule with plans and scheduling as soon as they are identified.

9.3.8. Distribute appropriate class schedule and roster to affected activities.

9.3.9. Establish procedures to monitor deviations to the published training schedule. Advise the group and unit commanders of deviations.

9.3.10. When applicable, coordinate with HQ AFSOC/LGMMT activities on training requirements for TDY maintenance personnel.

9.4. Maintenance Qualification Section. The maintenance qualification section is responsible for the Maintenance Qualification Training (MQT) Program. This program was designed for production oriented training and will train and qualify apprentice technicians on core tasks identified by the squadron to produce quality trained apprentice technicians. It provides them with the capability to perform many of the routine tasks required to maintain their aircraft or equipment. It should cover, to the maximum extent possible, weapon system familiarity subjects such as refuel, defuel, tow, inspection, etc. The only variations in MQT are those resulting from weapons system differences. The policies, requirements, and responsibilities for the MQT are as follows:

9.4.1. All personnel graduating from a three-level awarding course are required to attend MQT, or a mission ready technician (MRT) program, if it has been established for their AFSC.

NOTE: This requirement may be waived by applicable LG/CCs.

9.4.2. Failure of an individual to successfully complete MQT requires an evaluation by the MQT supervisor. After the evaluation, recommendations will be made to the individual's unit commander.

9.4.3. Administration procedures for the program will be determined by the LSS/CC. An MOI will be written that will satisfy the policies and requirements listed in paragraph 9.3. In addition:

9.4.3.1. The MOI will define and assign responsibility for all training equipment, aircraft, and devices.

9.4.3.2. The MOI must be fully coordinated within the Logistics Group.

9.4.4. The maintenance training flight is responsible for program oversight. They will ensure that program currency is maintained by making required procedural and technical changes as directed by the command authority. In addition, they will:

9.4.4.1. Ensure the instructor-to-student ratio of 1:6 is not exceeded.

9.4.4.2. Ensure MQT requirements are identified and completions are properly loaded into CAMS.

9.4.4.3. Forward recommended changes for MQT to HQ AFSOC/LGMMT for approval. Also forward information copies to each unit affected. All affected units must concur with proposed changes before implementation into the master plan for a weapon system. HQ AFSOC will publish approved changes.

9.4.4.4. Instructional Systems Curriculum Development (ISD) Section. This section oversees course curriculum development. This section will:

9.4.4.5. Coordinate annual Instructional System Review (ISR) actions on all Maintenance Qualification Training Program (MQTP), Squadron Training (SQT), Aircraft Battle Damage Repair (ABDR), and Training Detachment (TD) courses.

9.4.4.6. Act as OPR for all training material acquisition requirements within the maintenance community.

9.5. Aircraft Battle Damage Repair (ABDR) Section. (This section/element is located within the MXS Equipment Maintenance Flight for the 353 SOG and within the Logistics Support Flight for the 352 MXS).

9.5.1. This section administers the ABDR Program IAW AFI 21-101 *Maintenance Management of Aircraft* and AFSOCI 21-103, *Aircraft Battle Damage Repair (ABDR) Program*. The section is manned by the following core AFSCs 2A6X6, Electro-Environmental; 2A6X4, Fuel Systems; 2A6X5, Pneudraulics; 2A5X1/2A5X2, Aircraft Maintenance(APG); 2A7X3, Aircraft Structural Maintenance; and other AFSCs directed by the commander. Permanent manpower positions for this section may be established through normal channels if desired.

9.5.2. HQ AFSOC/LGMW is the command OPR for the ABDR Program. Deviations to the approved program format must be coordinated through this office.

9.6. Engineering and Technical Services (ETS) Management and Control. The following paragraphs prescribe the policy and procedures for management and control of Engineering and Technical Services (ETS) within AFSOC. ETS are provided by both Contractor Engineering and Technical Services (CETS) and Air Force Engineering and Technical Services (AFETS). Information contained in this section applies to all echelons throughout the active Air Force Special Operations Command (AFSOC), and AFSOC units located in Pacific Air Force (PACAF), and United States Air Force Europe (USAFE). Air Force guidance of the ETS program is

contained in AFI 21-110, *Engineering and Technical Services*. The Command OPR for the ETS program is the Chief, Maintenance Engineering Division, HQ AFSOC/LGM who is responsible for programming, budgeting, and managing ETS requirements. Actions affecting AFETS/CETS must be coordinated with and approved by HQ AFSOC/LGM. Requests for changes to AFETS position descriptions and assignments will be submitted to HQ AFSOC/LGM for approval and implementation. HQ AFSOC/LGM will staff and validate all ETS requirements documented by the requesting organizations. HQ AFSOC/LGM will realign AFETS resources as needed when the mission, system, or equipment changes. All personnel actions impacting ETS positions, including over hires, must be submitted to HQ AFSOC/LGM for coordination and approval. Coordination with the affected organizations will be accomplished.

9.6.1. ETS requirements within AFSOC will be satisfied through the use of AFETS where practical. Units will ascertain if AFETS are available or can be retained to meet ETS requirements before requesting CETS support. AFETS are long term assets whose value to AFSOC increases over time. AFETS will receive priority consideration for technical training and instructor training consistent with effective/efficient training planning and established priorities.

9.6.2. Allocation and Duty Locations of ETS Positions. Where practical, AFETS will be located within the primary area of their expertise. Allocation of ETS positions will be based on operational requirements as determined by the HQ AFSOC OPR. Due to the complexity and type of equipment associated with certain programs, and the number of systems fielded, it is not always practical to provide separate ETS support to each unit. In these instances, ETS personnel may be assigned to strategically located units in the command to provide services to specific geographical areas, or may be assigned to installations where collocated units have like equipment. When ETS are assigned to installations where units have like equipment, training requirements will be coordinated between units and technical advice and assistance services will be based on day-to-day priorities. Units desiring services of strategically assigned CETS will direct their request through HQ AFSOC/LGM. Request will include name of contractor, purpose, and date(s) service is required.

9.6.3. ETS Review and Utilization. Quality of service, as well as technical competence and standards of conduct, should be determined as soon as possible on all ETS personnel and unsatisfactory conditions reported, in writing, to HQ AFSOC/LGM. CETS personnel will submit a Monthly Activity Report to their company within 5 days after the end of each 30 day period. Reports will include: Subject(s) taught, number of students trained, number of instructor hours by classroom and OJT, comments on facilities, unit support, and recommendations. AFETS personnel will submit a quarterly report containing the same information as the CETS Monthly Activity Report. Quarterly reports are sent to HQ AFSOC/LGM through the host Logistics Group and/or Maintenance Squadron commander.

9.6.4. Budgeting and Funding Policies for AFETS. HQ AFSOC will budget and fund for salaries, awards, and benefits for AFETS supporting command requirements. Funds for salaries and awards for AFETS assigned to AFSOC units will be allocated to each unit based on the number of assigned AFETS personnel. AFETS personnel will be paid by the local base civilian payroll office having pay responsibility for the unit of assignment. Wing/unit ETS OPRs

(LG/MXS commanders) will budget and fund for TDYs of assigned AFETS personnel in support of the unit's mission. The AFETS TDY budget will include funding for projected mission related deployments and the following activities whenever considered mission related: PIWGs, PMRs, CDRs, technical order reviews, conferences in support of the unit's mission, technical services in support of higher headquarters, training at other locations, and so forth. Funding for AFETS TDY should be included in the unit's total TDY budget request.

9.6.5. AFETS personnel duty assignments, other than technical advisory services and conducting training, will be held to a minimum. Military responsibilities will be discharged by military personnel and will not be delegated to AFETS personnel; that is serving as OPR for: monitors of suggestion programs, cost reduction programs, studies not related to position descriptions, ancillary training, or providing other courses not directly related to an individual's area of expertise. In areas where specific skills are required and only AFETS personnel are available to perform a service, the unit OPR may temporarily assign AFETS to perform these duties until military personnel are trained to perform the duties.

9.6.6. At units with five or more AFETS assigned, a supervisory AFETS position (lead AFETS) may be established by the command OPR to function as group leader and first line supervisor of all other AFETS personnel assigned to the unit. When an AFETS supervisory position is established, the incumbent will report directly to the using activity (unit) OPR. Second level review of the AFETS supervisor will be by the MAJCOM OPR, with the using activity OPR providing second level review for other assigned AFETS. When no AFETS supervisory position is established, first level supervision for all assigned AFETS will remain a direct responsibility of the using activity OPR, with the MAJCOM OPR providing second level review, unless delegated otherwise. AFETS on TDY will work under the guidance of the local unit ETS OPR or assigned AFETS supervisor.

9.6.7. ETS TDY Deployment Policies. Units are authorized to deploy AFETS to support mission requirements. CETS representatives are typically not deployed, but may be deployed on specific approval of the MAJCOM OPR, subject to contract provisions. AFETS specialists will not be required to commence travel overseas to High Threat Areas until official passport and visas requirements for civilians, outlined in the Foreign Clearance Guide, are obtained. Note that passport and visa requirements for civilian and military members often differ. Separate TDY orders will be prepared for AFETS participating in deployments to ensure civilian benefits are included and provisions are made for emergency leave/evacuation. Overseas TDY deployment times for AFETS employees will not exceed that of their military counterparts and will be limited to minimum essential time necessary to complete deployment requirements. Extended assignments/TDY must be evaluated in light of the impact on the balance of payments. Requests for exceptions to these limits will be submitted to HQ AFSOC/LGM for approval.

9.6.8. AFSOC OPR Responsibilities. The AFSOC OPR is responsible for AFSOC policies and procedures, and personnel administration, coordination, and management of the overall ETS program within the command. The command OPR will determine and validate all ETS requirements. CETS task work specifications will be developed by the MAJCOM OPR and

validated with using activities. All requests for guidance concerning AFI 21-110 or this section, will be directed to the HQ AFSOC/LGM OPR.

9.6.9. Using Activity Responsibilities. In all aircraft units assigned to HQ AFSOC, the Logistics Group commander or Maintenance Squadron commander will be the OPR for ETS. Each unit OPR will forward AFETS and CETS requirements, justifications, and required reports to HQ AFSOC/LG under the signature of the LG/MXS commander. Submit requests for changes to AFETS position descriptions and assignments to HQ AFSOC for approval and implementation. Using activity OPR will ensure the appointed Air Force Certifying Officer (AFCO) is trained on responsibilities as outlined in AFI 21-110 and the AFCO Guide.

9.7. Command Engine Run Tests Program. The AFSOC command engine run test will be used for engine run certification. Tests will contain a sufficient number of questions (minimum 50) to provide an adequate measurement of knowledge in all essential areas. Units may use locally developed tests in addition to the command standard test, but local tests will not be used as the basis for engine run certification. Tests must be administered and controlled by training management to prevent compromise of the contents.

9.8. Engine Run Test Development. A list of designated OPRs for developing subject tests is found in Table 9.1. Tests will be developed as follows:

9.8.1. OPRs will develop two sets of test banks for each aircraft. Test bank one will be used to build the **BOLD FACE** and emergency procedures. Test bank two will be used to build the normal procedures, limitations, responses to abnormal conditions, communications and precautions (warnings, cautions, notes) portion of the test. The user station Maintenance Training Section will be required to create at least three different examination tests from these MAJCOM provided test banks. Each test will consist of 50 questions, the first ten questions (minimum of 3 bold face write in responses) of each test must be from test bank one. You may put as many questions on a page as long as they fit, however no questions can start on one page and continue on another page. Examination questions will be prepared in accordance with the format shown in figure 9.1. A minimum score of 100 percent is required for emergency procedures. A minimum passing score of 80 percent corrected to 100 percent is required for normal procedures and limitations.

9.8.2. Forward tests to HQ AFSOC/LGMMT for approval, reproduction, and distribution. OPRs will update and provide new tests to HQ AFSOC/LGMMT within 30 days of receipt of changes or revisions to regulations, manuals, or technical data affecting the test. Administrative errors or recommendations for changes will be reported by the unit to HQ AFSOC/LGMMT. Recommended changes must contain rationale for corrections.

9.8.3. Test development OPRs will accomplish an annual validation of the examination during January to ensure the tests are accurate and up-to-date. A letter will be sent to HQ AFSOC/LGMMT listing all updates and review verification.

9.8.4. HQ AFSOC/LGMMT will distribute the tests to each unit that performs engine run certification for that particular aircraft.

9.9. Weapons Standardization Flight (WSF). The WSF includes a flight chief, loading standardization crew (LSC), an academic instructor, and, when determined necessary, one or more load crews. WSF will be established in each special operations wing. A WSF is mandatory in special operations groups when munitions certification tasks are performed by the unit. When only qualification tasks are required, a comprehensive munitions training plan is sufficient.

9.10. Flight Chief. The WSF Chief develops, manages, and conducts the load standardization and load crew certification/ qualification programs. The flight chief sets standards, develops local policies and procedures, and interprets all technical data and directives governing the load standardization program. In addition, the WSF chief performs specific tasks outlined in AFI 21-101, *Maintenance Management of Aircraft*, paragraph 8.2.2.

9.11. Loading Standardization Crew. The LSC is assigned, evaluated, and certified, or qualified by the WSF chief. The LSC manages the load crew standardization and evaluation program. The LSC will:

9.11.1. Monitor, evaluate, document, and certify or qualify lead crews and load crews. Certification and quarterly evaluations are documented on AF Form 2435.

9.11.2. Review AFTO Forms 22, **Technical Order Improvement Report and Reply** pertaining to munitions loading technical data, prior to submission.

9.11.3. Perform quarterly and semiannual task evaluations on all certified and qualified load crew members.

9.11.4. Monitor certification and training documents to make sure load crew members have completed required proficiency training, and takes decertification action when proficiency requirements are not met. Load crew member records are kept in the WSF. These records include an AF Form 2435 for each certified load crew member and an AF Form 2419 for the most current evaluation performed by the WSF.

9.11.5. Maintain technical data for munitions arming, dearming, loading, and unloading of all aircraft assigned to the wing. Additionally, the LSC will maintain the required munitions technical data for servicing transient aircraft.

9.12. Lead Crews. Lead crews augment the LSC by training, certifying, and qualifying other load crews.

9.13. Munitions Load Trainers. Munitions load trainers develop and conduct the munitions load qualification program. They must be a sergeant or higher and be appointed by the appropriate squadron commander. Initial qualification of munitions trainers will be accomplished by a qualified LSC member with AFSC 2W1X1. If a unit does not have a LSC assigned, the

squadron commander will appoint a 9-level or a 7-level master sergeant to qualify trainers. This individual will receive initial training from a qualified LSC (from host base or other convenient LSC). This ensures the member has sufficient knowledge of the task to detect safety and reliability errors that may be committed. The local LSC or appointed 9-level/7-level Master Sergeant qualifying official must reevaluate the trainers semiannually.

9.14. Academics Instructor. A highly qualified individual is assigned to administer the weapons academic training program. The instructor conducts required initial and recurring weapons academic training for all unit load crew members, loading supervisors, and other personnel who maintain specific weapons task qualifications. The academic instructor may assist in conducting practical training.

9.15. Categories of Munitions Training. Training for munitions loading is divided into two categories: qualification tasks and certification tasks. Qualification is required on less complex operations and less hazardous munitions than on tasks requiring certification. Munitions load qualifications and tasks can be accomplished by any maintenance AFSC. However, the group commander assigns these tasks to the most appropriate AFSC and ensures that the requirements identified in this section are met. Qualification on munitions load tasks must be verified through performance at least semiannually. Certification is required on certain load tasks due their complexity and the hazards related to the specific munitions involved. Munitions certifications will be assigned to personnel in AFSC 2W1X1 only. Table 9.2. shows the tasks requiring qualification and those that require certification.

9.15.1. The following guidelines are used in conducting the certification program:

9.15.1.1. A load crew member is not certified on more than two types of aircraft except during aircraft or munitions test programs. However, the LSC and lead crews may be certified on all assigned aircraft.

9.15.1.2. When certifying or evaluating a two-member crew, only one certifying official is required.

9.15.1.3. Certification on munitions load tasks is verified through performance at least quarterly by at least one member from the LSC or lead crew.

9.15.1.4. Personnel certified on two separate MDS will alternate quarterly evaluation requirements between aircraft.

9.15.1.5. Certification on single stores loading is required prior to preloading. Units supporting preloaded tasks will alternate between single and preloading methods during quarterly evaluations.

9.15.1.6. During initial certification and recurring evaluations, training (dummy) munitions are used to the maximum extent possible. However, if live munitions are used, load crews must be under the direct supervision of two certifying officials.

9.15.2. The following criteria apply to initial and quarterly certification evaluations:

9.15.3. Decertification is the removal from certification status of an individual or crew and precludes them from loading that specific type munitions until recertified. For integrated loads, the evaluator may elect decertification on any one munitions or all munitions loaded. The following circumstances warrant decertification:

9.15.3.1. Individual commits more than 4 errors.

9.15.3.2. Individual commits any safety or reliability error.

9.15.3.3. Individual fails to demonstrate technical proficiency.

9.15.3.4. Individual fails to complete the required quarterly evaluation. When an individual has been TDY, on leave, or incapacitated, that person will be decertified if required evaluation is not completed within 30 days of the members return to duty. This applies if 2 calendar months have passed since the original due date as well.

9.15.3.5. Individual fails to complete the required academic training.

9.15.3.6. Time standards are exceeded (the entire load crew is decertified).

9.16. Academic Training. All personnel who supervise, inspect, or support munitions loading will complete initial and recurring academic training. Initial academic training is completed before starting practical training and recurring academic training is completed annually. Load crew academic training may fulfill the requirements for transporting explosives, explosive safety and handling, and maintenance of explosives loaded aircraft provided the requirements of AFI 91-201, *Explosive Safety Standards*, and T.O. 11A-1-33, *Handling and Maintenance of Explosives Loaded Aircraft*, are included. Academic training is documented in CAMS.

9.17. Transient Aircraft. The LSC will be responsible for performing munitions arming, dearming, loading, and unloading of transient aircraft. If appropriate technical data is available, the group commander may direct the LSC to de-arm and unload an aircraft on which they are not certified/ qualified. In such cases, the aircrew should be available for consultation on aircraft peculiarities. If these conditions cannot be met, request directions from higher headquarters. Develop local procedures to control impulse cartridges removed from transient aircraft.

9.18. Test and Evaluation. The LSC or lead crew will provide munitions loading support for applicable test and evaluation efforts on assigned aircraft. Munitions loading support for test and evaluation outside of AFSOC will be as directed by HQ AFSOC. The LSC will develop locally approved checklists for supporting test efforts.

Table 9.1. Organizations Designated OPR For Developing Subject Tests.

SUBJECT	TEST NUMBER	DEVELOPMENT OPR
C-130 ENG RUN	ER - 1/ER-1A	16 LSS/LGLT
H-53 ENG RUN	ER - 3/ER-3A	16 LSS/LGLT
H-60 ENG RUN	ER - 4/ER-4A	16 LSS/LGLT
APU/GTC/APP OPERATION	TO BE DETERMINED	16 LSS/LGLT

Table 9.2. Munitions Qualification/Certification.

	<u>QUAL</u>	<u>CERT</u>	<u>TIME</u>
ALE-40/45/47 Chaff/Flare	X		note 1
20MM Gun Pod	X		note 1
25MM ASHS	X		note 1 and 4
50 Cal Gun Pod	X		note 1
Rocket Launcher (19)		X	30 Min. note 2
Rocket Launcher (19) 1X		X	45 Min. note 3
Rocket Launcher (7)		X	30 Min. note 2
Rocket Launcher (7) 1X		X	30 Min. note 2
Missiles		X	note 1
Notes:			
1. Time limits established locally.			
2. Add 10 Min for each additional launcher.			
3. Add 15 Min for each additional launcher.			
4. Must have a minimum of three member load crew.			

Figure 9.1. Command Standardized Engine Run Test

TEST TITLE: C-130 Engine Maintenance Run

TEST NUMBER: EG-4

QUESTION NUMBER:21

QUESTION: The aircraft Fire Extinguisher System pressure limit at 70 degrees F must be _____ .

- a. 490 - 570 psi
- b. 545 - 690 psi
- c. 600 - 640 psi
- d. 675 - 750 psi

ANSWER: c.

REFERENCE: T.O. 1C-130B-1, pg 5-9, fig 5-1

QUESTION OPR: 16 SOW/LGLT DATE: 1 NOV 91

Chapter 10

FLYING AND MAINTENANCE SCHEDULING PROCEDURES

10.1. Purpose. This chapter provides guidelines for the development of the wing flying and maintenance schedule. It also provides guidance for identifying, recording and reporting deviations to the flying schedule.

NOTE: A glossary of terms contained in this chapter is located in Attachment #1.

10.1.1. General. The planning process involves five closely related but separate phases: annual, quarterly, monthly, and weekly planning with daily adjustments as the final process. Each phase is the result of detailed efforts that recognize the requirements of both operations and maintenance. Detail scheduling responsibilities are outlined in AFI 21-101.

10.1.2. Operational/Maintenance Planning Cycle. The objective of the planning cycle is to enable the orderly execution of the wing flying hour program consistent with operational requirements and maintenance capabilities. The flying and maintenance schedule cycle begins with the annual allocation of flying hours, and known maintenance requirements. Given operations requirements and maintenance considerations/capabilities, operations and maintenance will develop a proposed annual flying program. The number and length of sorties is of prime consideration in planning to meet programmed utilization rate goals. Principal areas of concern are in overall flying schedules, configurations, launch and recovery patterns and scheduled maintenance. Long range planning is needed to support quarterly flying hour programs, PDM schedules, TCTO programs, inspections, and scheduled exercises. The flying/maintenance plan is further defined using the procedures contained in the following paragraphs.

10.1.2.1. Aircraft Generation Planning - Wing P&S develops, coordinates, and prepares aircraft maintenance generation flow plans for the various unit taskings using AF Form 2408, **Generation Maintenance Plan**, and AF Form 2409, **Generation Sequence Action Schedule (GSAS)** IAW AFI 21-101. Forward the completed GSAS form to affected activities at the beginning of the generation sequence. The plan ensures that squadron and wing Schedule of Events (SOE) align.

10.1.2.1.1. The Command Standard for MH-53J aircraft shipment preparation is:

10.1.2.1.2. C-5 Disassembly/Reassembly 12/15 hours.

10.1.2.1.3. C-17 Disassembly/Reassembly 11/14 hours.

10.1.2.1.4. C-5B Space Cargo Modified (SCM) - Fully disassembled aircraft time 12/15 hours disassembly/reassembly and partially disassembled aircraft will be 5/5 hours disassembly/reassembly.

10.1.3. Quarterly Plan. Quarterly planning starts with the operational requirement for flying time, airframe availability, maintenance capability, maintenance requirements, and other related data. The AGS/HGS senior maintenance officer, maintenance squadron supervisor, and the applicable flying squadron operations officer agree on operations and maintenance requirements at the scheduling meeting preceding the quarter being scheduled.

10.1.4. Monthly Plan. The monthly plan refines quarterly requirements and is the agreement between operations and maintenance approved by the wing or group commander. Operational requirements, attrition factors, and maintenance requirements are the basis for developing the weekly flying and maintenance schedules. This is accomplished through a series of meetings.

10.1.4.1. First Weekly Scheduling Meeting. At this meeting, flying squadron operations officer provides the senior squadron maintenance officer (31 SOS only) or maintenance squadron supervisor/superintendent with the estimated operational needs for the upcoming month. This will provide, as a minimum, the number and type of sorties required by day.

10.1.4.2. Second Weekly Scheduling Meeting. At this meeting, the senior squadron maintenance officer (31 SOS only) or the maintenance squadron supervisor/superintendent tell the flying squadron operations officer what requirements can be met, and what adjustments to the proposed schedule are required, or what limitations exist which may prevent successful fulfillment of requirements.

10.1.4.3. Third Weekly Scheduling Meeting. At the third weekly scheduling meeting, next month's plan is formalized. The monthly plan may be published separately or as an attachment to the last weekly schedule of the preceding month. If published separately, distribute the plan not later than 5 calendar days before the beginning of the month.

10.1.5. Weekly/Daily Schedule. The purpose of the weekly schedule is to refine the monthly plan and provide additional details. Once published, the weekly schedule provides the final contract for both operations and maintenance. Tail numbers will be assigned to mission and spare lines on the schedule during the weekly scheduling meeting. Deviation reporting will begin after the weekly is published.

10.1.5.1. Daily Schedule. Meetings are held daily to refine the next day's schedule as published in the weekly schedule. Those changes are reflected on AF Forms 2407 and distributed to affected agencies.

10.1.6. Scheduling Exceptions for Test and Evaluation. Wings or units responsible for the scheduling of Operational Testing and Evaluation (OT&E), Development Testing and Evaluation (DT&E), or Initial Operational Testing and Evaluation (IOT&E) aircraft are authorized to deviate from the published schedule when engaged in these programs without incurring a deviation. Units may print aircraft tail numbers in the weekly schedule and change them at the daily scheduling meeting without recording deviations.

10.1.7. **Unscheduled Tasking.** When a unit participates in an unscheduled higher headquarters tasking, self-initiated exercise (including surges), weather evacuations or other services tasking which significantly impact the printed weekly flying schedule, the printed schedule may be revised or canceled and replaced without recording deviations. This will not be used solely to recoup sorties.

10.1.7.1. **Revised Schedules.** The revised schedule will be finalized a minimum of 2 hours before the first scheduled launch. Normal deviation reporting procedures will be followed once the revised schedule has been finalized. Normal deviation reporting procedures will be followed after a takeoff time is established for a tasking by higher headquarters or other services.

10.1.7.2. **Terminating the Revised Schedule.** Once the tasking terminates, the original schedule may be used or it may be revised or reprinted as required. Normal deviation reporting is to be used once the revised or reprinted schedule finalized.

10.2. Flying Scheduling Effectiveness. The purpose of this section is to explain the use of the AF Form 2407, define flying schedule deviations, outline agency responsibilities for recording deviations to the flying schedule, and provide formulas for computing flying scheduling effectiveness.

10.2.1. **Requirements.** Flying scheduling effectiveness computation and deviation recording are required for all AFSOC assigned aircraft.

10.2.1.1. All schedule changes made at the daily scheduling meeting are annotated on AF Form 2407 and distributed to affected agencies prior to 1600 (or designated COB). For the purpose of the simplicity and conservation, one AF Form 2407 should be prepared for each unit or MDS instead of a separate form for each tail number. As a minimum, AF Forms 2407 should be distributed to Plans and Scheduling, unit production supervisors, AMCC, Debrief, and Analysis.

10.2.1.2. All schedule changes made after the daily scheduling meeting require AF Form 2407 coordination and distribution. The initiator of the AF Form 2407 changes must coordinate through unit maintenance supervision. Maintenance supervision will coordinate and provide AF Form 2407 changes to the AMCC, who, in turn, will coordinate and distribute the changes to affected agencies.

10.2.2. **Flying Schedule Deviations.** Questions concerning the recording of deviations between Maintenance, Operations, or Supply will be resolved by the LG/CC (MXS/CC overseas) prior to being reported to higher headquarters. Deviations will be recorded against the following categories:

10.2.2.1. **Maintenance (MT).** Deviations resulting from aircraft discrepancies, unscheduled maintenance, or from an action taken from maintenance considerations.

10.2.2.2. **Operations (OP).** Deviations resulting from operation/aircrew actions, including substitution, crew error, crew illness, mission changes, and overstressing the aircraft.

10.2.2.3. Supply (SU). Deviations resulting from a Partially Mission Capable Supply (PMCS) or Not Mission Capable Supply (NMCS) condition for late Supply or POL delivery.

10.2.2.4. Higher Headquarters. (HQ) Deviations resulting from higher headquarters tasking including closing of a low level route or cancelling training sortie for higher headquarters tasking. Operations will decide what sortie lines they wish to keep in the event adequate spares are not available. When an aircraft scheduled for a higher headquarters directed alert or off-base mission is replaced by a spare, one of the following options may be taken for those sorties which were printed in the weekly schedule for the aircraft:

10.2.2.4.1. Option 1. The originally scheduled prime aircraft which remained on base may fly the sorties of the departed aircraft for the remainder of the week without recording deviations. CAMS entries will be changed to reflect this action. Once entered on that week's schedule, normal deviation reporting will apply.

10.2.2.4.2. Option 2. The sorties may be interchanged with a printed spare aircraft on each day's schedule.

10.2.2.5. Weather (WX). Deviations attributable to adverse weather conditions. Weather conditions negatively impacting mission completion (e.g. local destination, range, en route, or alternate) are also included in this category.

10.2.2.6. Sympathy (SY). Sympathy deviations are caused by a deviation of a supporting aircraft, such as the loss of tanker support for refueling or the loss (late, cancel, abort) of one or more aircraft in a multiple aircraft launch (i.e. "three-ship" or "four-ship" launches). Sympathy adds may be taken to replace sympathy losses on the same day if proper notification and sufficient preparation time permits.

10.2.2.7. Air Traffic Control (AT). Deviations resulting from air traffic control problems (for example, flight clearance delays, tower communication failure, conflicting air traffic, runway closure).

10.2.2.8. Other (OT). Deviations resulting from the following situations:

10.2.2.8.1. Test and Evaluation. Malfunctions, failures, or necessary adjustments to equipment undergoing tests or evaluations associated with OT&E, DT&E, or IOT&E installed on or in CB-coded aircraft (see paragraph 10.1.6.).

10.2.2.8.2. Unusual Circumstances. Circumstances not covered by the above definitions may use this code (e.g., bird strikes, damage during air refueling, weather damage, unscheduled alert swap out, etc.).

10.2.2.8.3. Exercise. Sorties added or canceled due to the initiation of an unannounced exercise.

10.3. Deviation Categories. Deviations will be recorded as chargeable or non-chargeable as described in this publication. Chargeable deviations take precedence over non-chargeable deviations. Multiple deviations will not be recorded against a single line entry except for air aborts.

NOTE: For deviation reporting purposes, the AFTO Form 781, **AFORMS, Aircrew/ Mission Flight Data Document**, will be the official source document for takeoff and landing data.

10.3.1. Chargeable Deviations. Chargeable deviations are generally described as those within the control of local management. Local management is defined as the overall operations/logistics body dedicated to the formulation, support, and execution of a given mission tasking. All supply deviations that result from a filled requisition for which the supply delivery time exceeded the allowable standard in AFMAN 23-110, *USAF Supply Manual*, and was not replaced by a spare, are in this category. Deviations resulting directly from late delivery of POL are chargeable to supply.

10.3.1.1. Aborts:

10.3.1.1.1. Ground Aborts. Ground aborts will be recorded against the responsible agency: maintenance, operations, and/or supply. Ground aborts for FCFs and OCFs are not reportable, but may be tracked at the unit level using a locally devised method.

10.3.1.1.2. FCFs or OCFs. The entry will be recorded in CAMS as nonchargeable and will not be used in computing scheduling effectiveness.

10.3.1.1.3. Recovered Abort. If an aborted aircraft is launched on the original scheduled mission within 4 hours after the original scheduled takeoff time, the aircraft will be charged as a late takeoff (provided the line has not already spared).

NOTE: A decision that an effective sortie is possible will be made by operations, i.e. aircrew will decide, based on various mission requirements and availability of time, airspace, favorable weather, collateral support, etc, whether or not effective mission accomplishment is still possible.

10.3.1.1.4. Air Aborts. An air abort is considered as a sortie flown when reporting total sorties flown. Air aborts will be coded to the agency or condition that caused the aborted mission. An air abort will not be recorded when malfunctions occur during the "Before Takeoff Checklists" portion of helicopter sorties.

10.3.1.2. Additions. Additions are sorties flown that were not printed on the daily schedule and will be recorded against the agency that requested the additional sortie or aircraft. FCFs and OCFs whose primary purpose is to perform maintenance checks are not additions. These sorties will be considered flown as scheduled.

10.3.1.3. Cancellations. All maintenance, operations, or supply cancellations not interchanged with another aircraft on daily schedule.

10.3.1.4. Late takeoffs. All late takeoffs caused by maintenance, supply, or operations are chargeable. A late takeoff is recorded when a scheduled sortie becomes airborne more than 15 minutes but less than 4 hours after its scheduled takeoff time. Record an aircraft that takes off more than 4 hours after its original scheduled takeoff time as an addition. The original sortie will be a cancellation and charged against the agency/condition that caused the original delay and the addition charged to the agency that requested the replacement of the sortie. Late take-offs will not be recorded against aircraft launched to spare a ground abort.

10.3.1.5. Early takeoffs. An early take-off is recorded when an aircraft is launched at least 15 minutes earlier but less than 2 hours prior to the scheduled takeoff time. Aircraft launching more than 2 hours prior to the original takeoff time will be recorded as an addition and the original sortie will be a cancel.

10.3.2. Nonchargeable Deviations. Nonchargeable deviations are attributable to circumstances or factors not within local control. All deviations attributed to higher headquarters, weather, sympathy, air traffic control and other reasons are non-chargeable. All supply cancellations resulting from a verified NMCS or PMCS condition are non-chargeable.

10.3.2.1. Continuation Sorties. All cancellations due to continuation sorties are non-chargeable.

10.3.2.2. Ground Aborts. Ground aborts attributed to weather, ATC, sympathy, or higher headquarters are non-chargeable.

10.3.2.3. Off-Base Replacement Sorties. Sorties launched from home base that were originally scheduled to be off-base are non-chargeable. The home base sortie must meet the intent of the original off-base sortie and be accomplished by aircraft on that day's printed flying schedule.

10.3.2.4. Maintenance. Maintenance deviations that are spared are non-chargeable.

10.4. Aircraft Tail Number Swaps and Spares. Tail number swaps are changes to the printed flying schedule involving aircraft tail numbers printed on that day's schedule. Tail number swaps should be used to prevent reconfiguration and unnecessary labor hours when the prime aircraft will not be mission capable by its scheduled takeoff time. Any tail numbers on the schedule may be swapped. Use of a spare is considered a tail swap. Deviation for next sortie can be tracked as chargeable or non-chargeable.

10.4.1. Eligible Aircraft. Aircraft assigned to printed line numbers may be swapped with printed spare aircraft or any other aircraft assigned a printed line on the daily schedule (tail number swap). All swaps will be recorded on the AF Form 2407 and in CAMS.

NOTE: All affected agencies must coordinate on AF Form 2407 in-turn beginning with the initiating unit.

10.4.2. Processing Swaps. Swaps may be made any time prior to the units first crew-ready time of the affected flying day, after which normal deviation reporting begins. However, every effort must be made to make them at the prior day's scheduling meeting.

10.5. Flying Scheduling Effectiveness (FSE) Formulas. Compute a FSE rate for each MDS using the formulas below:

*Adjusted Sorties Scheduled = Scheduled Sorties + Nonchargeable adds - Nonchargeable Cancels

NOTE: Scheduled sorties include those that are “flown as scheduled”.

*Scheduling Effectiveness Rate = (Adjusted Sorties Scheduled - Chargeable Deviations)/
Adjusted Sorties Scheduled

NOTE: Include air aborts as part of the sorties flown, but do not include them in the chargeable deviation portion of this formula.

10.6. Maintenance Scheduling Effectiveness. This metric provides a means to measure maintenance management effectiveness, reflected by how well the maintenance schedule is carried out. Maintenance efforts should be directed toward the timely accomplishment of all scheduled maintenance actions.

10.6.1. Computations:

10.6.1.1. Scheduled maintenance events and respective weighted factor points in table 10-1 are used in computing the aircraft maintenance scheduling effectiveness rate. Credit is received for actions started prior to the scheduled date as printed in the weekly flying schedule. The CAMS data base will be used to determine whether or not the maintenance actions were started on time.

10.6.1.2. The LG/CC, AGS/CC, HGS/CC, and MXS/CC may select additional areas (such as AGE) for local scheduling effectiveness tracking. The unit will establish standards for these programs and develop a computation in the format of table 10-1. This data will not be included in aircraft maintenance scheduling effectiveness when reported to HQ AFSOC/LGMXA.

10.6.1.3. AGS/HGS/MXS P&S will compute the maintenance scheduling effectiveness rate on a weekly basis. When decentralized, AGS/HGS P&S will compile the maintenance scheduling data on a weekly basis. Computations (points possible and points earned) will be forwarded to the LSS analysis section for publication in the maintenance key indicator message reported to HQ AFSOC/LGMXA.

10.6.2. Exceptions:

10.6.2.1. Unscheduled Taskings. When a unit receives an unscheduled tasking or unannounced exercise/real world contingency that significantly impacts the printed weekly maintenance plan it may be revised or reprinted without incurring deviations. Normal deviation reporting will be

followed once the new plan is finalized. The part of the schedule revised will not be included in the scheduling effectiveness rate.

10.6.2.2. Units may revise or reprint the following day's, or remainder of that week's maintenance schedule to compensate for adverse weather. This adjustment should be used only in extreme cases and recorded on AF Form 2407. Once changed, normal deviation reporting procedures will apply.

10.6.3. Deviation Categories. Chargeable and non-chargeable deviations result when maintenance actions are not started on or before the scheduled start date.

10.6.4. Chargeable Deviations. Chargeable deviations can be generally described as those in control of local management.

10.6.4.1. Flying Schedule Changes. Maintenance actions cancelled to add aircraft to the flying schedule.

10.6.4.2. Manpower and Equipment. Maintenance actions cancelled due to lack of manpower or equipment.

10.6.5. Non-chargeable Deviations. Non-chargeable deviations are attributed to circumstances/factors not within local control.

10.6.5.1. Higher Headquarters. Deviations resulting from higher headquarters taskings are non-chargeable.

10.6.5.2. Weather. Deviations caused by weather are non-chargeable.

10.6.5.3. Supply. Deviations that result from a verified parts back order condition are non-chargeable.

10.6.5.4. Impounded Aircraft. Deviations caused by the aircraft being impounded after publication of the weekly schedule are non-chargeable.

10.6.5.5. Technical Data Restrictions. Deviations resulting from unscheduled major maintenance where the scheduled maintenance action cannot be accomplished because of tech data restrictions are non-chargeable.

10.6.5.6. Off-Base Aircraft. Deviations resulting from an aircraft being unable to return from off-base due to factors outside unit control are non-chargeable.

Table 10-1. Maintenance Scheduling Effectiveness Computation.

	A	B	C	D	E
SCHEDULED MAINT EVENT	WEIGHTED POINTS	NUMBER EVENTS	POINTS POSSIBLE A X B	EVENTS STARTED AS SCHED	POINTS EARNED A X D
ISO/Phase	6				
HSC/HPO	5				
Transfer/Accept Insp	4				
Engine chgs	4				
TCI/TCTO	3				
Spec Insp	3				
Wash/Corr	3				
Document Review	2				
Delayed Discrep	1				
Total Points Possible_____			Total Points Earned_____		
Formula: Total points earned divided by total points possible X 100 = maintenance scheduling effectiveness rate.					

10.7. Deployed Operations and Off-Base Sorties. The purpose of this section is to differentiate between a “deployed” sortie and an “off-station” sortie, and to establish rules and procedures to for planning, executing, evaluating, and reporting of unit flying and maintenance schedules.

10.7.1. Off-Station Sorties. Off-station sorties are those sorties flown from other than home station where parent unit maintenance is not provided (i.e., cross-country sorties). Sorties flown from other than home station where no parent unit maintenance is provided are “off-station”

sorties and are considered “flown as scheduled” (i.e. cross-country sorties). Off station sorties do not normally incur deviations except as stated below in paragraph 10.7.1.2.

10.7.1.1. Off-Station Spare. When a spare is launched to the off-station/cross-country location in place of the originally intended aircraft the option in paragraph 10.6.5.6 applies.

10.7.1.2. Off-Station Deviations. When an aircraft is off-station and cannot return to home station for its scheduled sortie, a deviation will be recorded for the reason the aircraft was unable to return. The reasons will be specific, i.e. maintenance, operations, weather, etc.

NOTE: If the aircraft can fly its scheduled mission from the off-station location, no deviation is recorded.

10.7.2. Deployed Operations. Sorties flown at deployed locations where parent unit maintenance is provided are considered “deployed” sorties.

10.7.2.1. Scheduling. In addition to the procedures for home station scheduling and reporting, deployed units will use the following procedures when developing a weekly flying schedule and reporting deviations:

10.7.2.2. Sortie Sequence Numbers. Separate blocks of sortie sequence numbers will be assigned by P&S for deployment locations. P&S will ensure affected agencies such as the debriefing sections are aware of the assigned sequence numbers.

10.7.2.3. Deviation Reporting. Normal deviation reporting applies to deployed operations except as noted in this chapter. Data from deployed operations are included with home station data in reports of unit performance to HQ AFSOC/LGMXA. This data will also be reported separately in the theater operations data on a monthly basis.

10.7.2.3.1. Specific Aircrew Training Requirements. Deviations at the deployed locations which are required to accomplish specific aircrew training requirements are non-chargeable deviations. Procedures for changing the weekly schedules and recording deviations to the schedules apply to the deployed location. Deviations caused by ineffective planning are chargeable.

10.7.2.3.2. Deployed and Daily. Required information for deployed AFSOC units will be transmitted to home station on daily basis for input into CAMS.

NOTE: If the off-station aircraft can fly its scheduled mission from its location, no deviation is recorded.

10.7.3. Spare Deployment Procedures. When a spare is launched for a scheduled deployment to a Forward Operating Location (FOL) or other location, the options for Higher Headquarters in paragraph 10.2.2.4, apply to the home station and deployment location flying and maintenance schedules.

10.8. Flying Scheduling Reporting Procedures in CAMS. This paragraph provides instructions on flying scheduling reporting procedures.

10.8.1. General. The flying schedule must be loaded in CAMS to track scheduling and deviations data. Once loaded, deviations to the flying schedule will be recorded in CAMS by the agencies identified in the “Responsibilities” section that follows. CAMS will provide base level retrieval of flying and maintenance schedule information and complete higher headquarters reporting of aircraft utilization.

10.8.2. Responsibilities:

10.8.2.1. AGS/HGS/16 MXS Plans and Scheduling. Plans and Scheduling has the following responsibilities:

10.8.2.1.1. Coordinate with flying squadrons when developing inputs for the flying and maintenance schedule.

10.8.2.1.2. Publish the consolidated flying and maintenance schedules (weekly, monthly) as required by the Wing Commander.

10.8.2.1.3. File and maintain for 1 year the weekly maintenance/flying schedules. All AF Forms 2407 that affect these schedules will be attached to and filed with them.

10.8.2.1.4. Load the daily flying schedule into CAMS using procedures outlined in the applicable CAMS manuals.

10.8.2.1.5. Assign sortie sequence numbers when loading the daily flying schedule in CAMS.

10.8.2.1.5.1. Assign blocks of sortie sequence numbers for deployed units.

10.8.2.1.6. Initiate/publish AF Forms 2407 as a result of changes made at the daily scheduling meeting. Load swaps to CAMS that were agreed upon at the daily meeting.

10.8.2.1.7. Verify accomplishment utilization report (AUR) accuracy IAW AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*.

10.8.2.2. Aircraft Maintenance Coordination Center (AMCC). The AMCC has the following responsibilities:

10.8.2.2.1. Ensure Data Accuracy. The AMCC will review the on-line CAMS debriefed sortie recap (CAMS screen 174) to ensure aircraft status and deviation reporting is accurate.

10.8.2.2.2. Data Input. The AMCC will record early and late takeoffs, cancellations, ground aborts, and swaps (including spares) in CAMS as deviations occur. AMCC will coordinate with production supervisors to accurately assess the cause of deviations.

10.8.2.3. Debriefing. Debriefing sections will record additions, aborts, in-flight emergencies, and incidents in CAMS during the CAMS automated debriefing process.

10.8.2.4. Maintenance Data Systems Analysis. The analysis section is the final auditor of deviation data recorded in CAMS. As a minimum, analysis will review the on-line CAMS debriefed sortie recaps and aircraft status screens on a daily basis to ensure accuracy of deviation reporting. Analysis will notify agencies to correct errors identified during the daily review process.

10.9. CAMS Deviation Reporting Codes. When recording deviations in CAMS, refer to the applicable CAMS manual AFCSM 21-574, Volume 2.

10.9.1. Ground Deviation Code. Enter one of the following codes from AFCSM 21-574, Volume 2:

Table 10.2. Ground Deviation Codes.

<u>CODE</u>	<u>FUNCTION</u>
AD	Addition
CX	Cancellation
GA	Ground Abort
LT	Late Takeoff
ET	Early Takeoff
SP	Spare
TS	Tail number swap

10.9.2. Deviation Indicator. Enter one of the following codes to indicate the category of each deviation.

Table 10.3. Deviation Indicators.

<u>CODE</u>	<u>FUNCTION</u>
C	Chargeable
N	Non-Chargeable

NOTE: There is no code for interchange in CAMS. The action required to indicate an interchange in CAMS is a tail number swap. Code it as a non-chargeable deviation and list in the remarks block that the tail number swap is an interchange.

10.9.3. Cause Code. Enter one of the following codes to indicate the reason for a deviation or the agency which caused a deviation. These codes must be entered into the CAMS Cause Code table as outlined in AFM 66-279, volume 12. The maintenance indicator block is left blank when loading the following Cause Codes.

Table 10.4. Cause Codes.

<u>CODE</u>	<u>FUNCTION</u>
Atx	Air Traffic
GAA	Ground Abort, before engine start, maintenance
GAB	Ground Abort, after engine start, before taxi, maintenance
GAC	Ground Abort, after taxi, maintenance
HQT	Higher Headquarters, MAJCOM
HQN	Higher Headquarters, NAF
HQP	Higher Headquarters, other
MTx	Maintenance
Opx	Operations
Sux	Supply
Syx	Sympathy
WXx	Weather
Otx	Other

NOTE: Use x for any character for local use.

10.9.4. Air Deviation Code. Enter one of the following codes or one of the air deviation codes in AFSCM 21-574, Volume 2, for each deviation that occurs after aircraft takeoff:

Table 10.5. Air Deviation Codes.

<u>CODE</u>	<u>FUNCTION</u>
AA	Air Abort (includes operations, weather, sympathy, ATC, Non-IFE, and other).
AI	Air Abort, IFE
FE	IFE
FI	In-flight Incident
LL	Late Landing

NOTE: An Air Abort (Code AA) is defined as an airborne aircraft that cannot complete its' primary or alternate mission. An Air Abort/IFE (Code AI) is defined as an airborne aircraft that encounters an emergency that results in an IFE declaration by the crew and results in an air abort as defined above. An In-flight Incident (FI) is defined as an airborne accident involving harm to or loss of life, limb, or equipment.

Chapter 11

CORE AUTOMATED MAINTENANCE SYSTEM (CAMS) RESPONSIBILITIES

11.1. CAMS Policies and Responsibilities. The general information in this chapter is intended to provide the additional management procedures to make CAMS work for you.

11.1.1. Logistics Group Commander Responsibilities. The LG/CC is responsible for ensuring that each subsystem in CAMS is used to its fullest capabilities and personnel receive the training required to operate these subsystems. During periods of downtime, subsystems managers will ensure manual backup procedures are initiated. If manual backup procedures are not established, analysis will work with the subsystem manager and develop them.

11.1.2. AMCC Responsibilities. The AMCC has overall responsibility for the status and location subsystems in CAMS. The AMCC will also utilize the operational events and maintenance events subsystems in their day-to-day operations.

11.1.2.1. Status and Inventory Subsystem. As a minimum, the AMCC will maintain status, pacing WUC, estimated time in commission (ETIC), fuel and LOX loads and update status narrative. They will review individual aircraft status to include WUC and start and stop times and ensure all status is updated by COB the third workday of the following month (including deployed aircraft).

11.1.2.2. Operational Events Subsystem. The AMCC will make daily updates to the operational events subsystem and monitor current status of operational events, including start and stop times for the following:

NOTE: See glossary of terms for definitions of paragraphs 11.1.2.2.1. through 11.2.2.3.

11.1.2.2.1. Late Take-offs. The late start time begins at the scheduled take-off time. When the aircraft takes off, start the event using the actual take-off time. This action will stop the delay. If the delay is charged against maintenance, annotate the job control number of the discrepancy and the reason for the delay when loading the deviation into CAMS.

11.1.2.2.2. Early Takeoffs. The AMCC will load deviation start time in CAMS and annotate the reason for the early takeoff.

11.1.2.2.3. Tail Number Swaps. Load all tail number swaps and spares into CAMS.

11.1.2.2.4. Cancellations. An operational event may be cancelled using either the single equipment ID method or the block method. If more than one aircraft is being cancelled for the same reason (i.e. weather), use the block method. If aircraft are being cancelled for different reasons, use the single equipment ID method. Load the job control number and the reason for the cancel when loading deviations attributable to maintenance into CAMS.

11.1.2.3. Changes. AMCC personnel are responsible for correcting any entries to CAMS they make in error. If the error cannot be corrected or AMCC personnel do not know how to make the correction, they are responsible for contacting the CAMS database managers for assistance.

11.1.2.4. Maintenance Discrepancies. Input all call-in discrepancies that will be worked from the launch truck if mobile CAMS is not used.

11.1.2.5. Location Subsystem. Load locations in the system and make changes to equipment or aircraft locations.

11.2. Debriefing. Debriefing should be assigned to a separate work center. Personnel should be assigned to a debriefing section and not debriefing as an additional duty, i.e., crew chief crewing an aircraft and debriefing aircraft. These requirements are waived for Reserve units, where crew chiefs are used for debriefing as required. Debriefing is responsible for the Automated Debriefing System in CAMS. Debriefers will also use the operational events and maintenance events subsystems in their day-to-day operations. 16 MXS debriefing is accomplished by AMCC.

11.2.1. Table Maintenance. Load all system capability codes, systems, and narratives for each MDS assigned as outlined in applicable directives. Load all maintenance indicators, cause codes, and narratives and deferred indicator as outlined in AFCSM 21-574, Volume 2.

11.2.2. Debriefing Data. Load all debriefing data IAW AFCSM 21-574, Volume 2, Automated Debriefing. Include pilot reported discrepancies, utilization data, systems capability data, off-station discrepancies, and repeat and recurring discrepancies.

11.2.3. Deviation Data. Load the following deviations during the debriefing process:

11.2.3.1. Aborts. Enter abort information into CAMS. When a mission is aborted that event will be stopped. If the mission is to continue on the same aircraft or a spare, a new event will be loaded into CAMS.

11.2.3.2. Additions. Load all current day additions as unscheduled in CAMS by placing "U" in the "scheduled indicator" block. Off-station sorties are loaded the same way as additions, except, place an "S" in the "scheduled indicator" block to show the sortie was "flown as scheduled".

11.2.3.3. Changes. Debriefers are responsible for correcting any entries to CAMS that they make in error. If the error cannot be corrected or debriefers do not know how to make the correction, they are responsible for contacting the CAMS database managers for assistance.

11.3. Plans, Scheduling and Documentation. The PS&D Section is responsible for the maintenance event, operational event, inspection and time change, TCTO and aircraft configuration management subsystems.

11.3.1. Maintenance Event Subsystem. Initiate and maintain the operating instruction for the assignment and application of manual job control numbers used during periods of CAMS downtime and deployments. Ensure the accuracy of awaiting maintenance deferred discrepancies.

Review discrepancies that can be worked during scheduled maintenance and schedule maintenance as required.

11.3.2. Status and Inventory Subsystem. Perform the functions necessary to accomplish aerospace vehicle distribution office (AVDO) function.

11.3.3. Operational Events Subsystem. PS&D Section will load utilization codes and narratives by MDS identified by the HQ AFSOC/AVDO. They are also responsible for monitoring operational events.

11.3.4. Inspection and Time Change Subsystem. Prepare CAMS work orders for each time change item (TCI) and initiate and update job flow packages for recurring maintenance actions.

11.3.5. TCTO Subsystem. PS&D Section will ensure the load of all TCTOs except depot and ensure the status is current.

11.3.6. Aircraft Configuration Management Subsystem. PS&D shall have oversight of all maintenance and data inputs into this subsystem.

11.4. Programs Section. Programs personnel are located in the maintenance operations flight of the LSS. Programs personnel are responsible for the personnel subsystem. PS&D Section loads, changes and deletes organizational, branch and work center records in coordination with the analysis section; loads, changes and deletes personnel records; and coordinates all personnel subsystem backgrounds requirements with work centers to the data base management section.

11.5. Training. Training personnel assigned to the Military Training Flight (Section for 352/353 MXS) or 16 MXS are responsible for their respective training subsystems. They maintain the course code table and ensure course prerequisites and work center course requirements are loaded. Training will schedule all training events and load and update course status for personnel.

11.6. Engine Management. Responsible for the CEMS. They will process all loads, changes, and deletions for all engine related equipment and request initialization decks from the Central Data Bank as required. This section will perform updates, maintain engine and component operating times, status, location, corrections, removals, installations and change part numbers and serial numbers on all engine related equipment.

11.7. Analysis. Responsible for the operation of the Job Data Documentation (JDD) and the personnel security subsystems and has overall responsibility for management of the CAMS data base.

11.7.1. Job Dispatch Subsystem. Analysis will assist work centers in creating, scheduling, and clearing events and perform periodic checks of the data for accuracy. They will run backgrounds, Query Language Processors (QLPs) and Interactive Query Updates (IQUs) for work centers to track events.

11.7.2. Data Base Management. The data base management function is responsible for loading all user passwords for individuals and loading TRIC security. They will keep track of all history tapes generated by the system. This function also coordinates with all outside agencies concerning the operation of CAMS.

11.8. Work centers. Work centers will ensure the correct documentation procedures are being used for JDD events and that the information loaded for personnel and training subsystems is current and accurate. Work center supervisors will review their work centers JDD data and work center events for accuracy and completeness. (See paragraph 12.5. for Data Integrity Process/Teams).

NOTE: Supply Interface. Work centers will use CAMS to order parts, TCIs, and TCTO kits/parts. Personnel utilizing the supply interface should attend SBSS Block I, General Supply Indoctrination. AFCSM 21-579, Volume II provides information on the operation of the supply interface.

11.9. Deployment Procedures for CAMS. This paragraph establishes minimum data requirements for CAMS during deployments.

11.9.1. Pre-deployment Procedures. These procedures will assist in preparing to capture data at the deployed site. Each unit will establish detailed deployed data processing plans to cover both CAMS capable and non-CAMS capable locations. Analysis will assist units in developing data plans and identifying elements to be captured.

11.9.1.1. The Advanced Echelon (ADVON) Team. This team will evaluate the capability of the deployed locations maintenance facilities and telecommunications lines to support CAMS equipment operations. If the deployed location has a host analysis section on station, contact them and verify whether CAMS operations are feasible based on facilities and existing telecommunications lines for connection to the deployed station data automation facility.

11.9.1.2. Home Station Analysis. Once the ADVON verifies CAMS supportability exists at the deployed location, analysis works in concert with the deployment maintenance supervision (or designated representative) to initiate CAMS. Analysis also briefs maintenance supervision on proper data collection and reporting procedures.

11.9.1.3. AMCC. This section will ensure all applicable -06 work unit code manuals for the deployed equipment; AFCSM 21-563, Volume II; AFSCM 21-579, Volume II; AFI 21-101, and AFSOCI 21-106 are included in their deployment packages.

11.9.1.4. Work center Supervisors. Work center supervisors will ensure all applicable -06 manuals for deployed equipment; AFCSM 21-563, Volume II; and enough manual collection forms for the deployment are included in their deployment packages.

11.9.2. Deployed Reporting Procedures. These procedures will be implemented at the deployed location. Availability or non-availability of Electronic Data Processing (EDP) equipment or processes does not affect the need to collect the data, only the way in which it is captured.

11.9.2.1. Maintenance Personnel. Maintenance personnel will report all maintenance actions on manual collection forms or directly into CAMS terminals if available. If using manual forms turn them into to AMCC.

11.9.2.2. P,S&D. If a scheduler is not a part of the personnel deployment package, maintenance supervision will designate who will execute the scheduling duties prior to the deployment for training by appropriate work centers. Squadron P,S&D will review the manual forms versus AFTO Form 781A to ensure all maintenance is being captured and submitted. They will prepare a daily report identifying missing forms and provide it to the maintenance supervisor for resolution. They will also prepare the daily schedule, keep account of flying hours and sorties flown, and assist the AMCC in collecting maintenance data for input into CAMS.

11.9.2.3. AMCC and Debriefing. If an AMCC representative and/or debriefer are not part of the personnel deployment package, maintenance supervision will designate who will execute the AMCC and debriefing duties prior to the deployment for training by the appropriate work centers. These agencies will collect and consolidate all manual data collection forms, track and record deviations to the flying schedule, record all status changes either manually or by automated means, and maintain all debriefing data. **If CAMS capability is not present at the deployed location, they will send status, deployed station departures, sorties, deviations by category, ground aborts, air aborts, flying hours, and landing status code threes, and code three fix times on a daily basis by secure fax or secure telephone unit (STU III).**

11.9.2.4. Units will include blank printouts of CAMS debriefing screens or computer generated products or forms in deployment packages for use if CAMS does not become available at the deployed location. Debriefing documents are completed by deployed maintenance personnel. Use blank printouts as a manual documentation method and forward the documents to the parent unit for data transcription by the most expeditious means available. Retain duplicates at the deployed location to aid in future debriefings. Turn in all documents to debriefing sections within one hour of return to home station.

Chapter 12

MAINTENANCE SYSTEMS ANALYSIS

12.1. Maintenance Systems Analysis General Information. Maintenance Systems Analysis is the primary management information source for the wing, group, or squadron commander. The overall objective of this function is to provide information used to improve operations and aid in the management decision process. This is done by examining various maintenance management output products and reports, identifying trends, and managing the CAMS.

12.2. Maintenance Data Systems Analysis NCOIC. The Maintenance Data Systems Analysis NCOIC acts as the functional manager for all assigned maintenance data systems analysts and exercises administrative control over them. Analysts should be centrally located to ensure effective mission accomplishment, achieve and maintain proper job and skill-level proficiency, and to offset personnel shortages. The NCOIC will appoint analysts to the Sortie Generation Flights within AGS, HGS, and MXS. (The 16 MXS has a separate analysis section). Analysts will attend a familiarization course (e.g., supervisors' familiarization course or locally developed course) on the primary weapons systems within 6 months of assignment to obtain a basic understanding of the mission and equipment maintained by the organization.

12.2.2. Monitor and brief the LG on Base Repair Capability Rate (T.O. 00-20-3, *Maintenance Processing of Reparable Property and Repair Cycle Asset Control System*) monthly. Brief on trends, repair rates, summaries of repair actions, and chargeable NRTS actions by work center and action taken code. Brief NRTS codes 3, 4, 5, and 6 individually covering reasons and recommendations from affected work center supervisors.

12.2.4. Recurring/Required Reports. Prepare and publish recurring squadron, group, wing, and higher headquarters reports as required.

12.2.5. Act as the primary point of contact for any taskings for data/information from sources outside the squadron.

12.3. Data Base Manager (DBM) Responsibilities. Each unit having an analysis section will have a unit data base manager and a backup. CAMS DBMs should complete the in-residence data base management course and be thoroughly familiar with all CAMS subsystems and utility programs. If DBMs have not attended the in residence course and meet the course requirements in AFCAT 36-2223, *USAF Formal Schools*, the NCOIC will submit a requirement for the course through maintenance training. The DBM coordinates with other functional areas within the unit to ensure continuity of transactions taking place in CAMS. The DBM acts as a problem solving agency within the unit; they determine operating procedures for effective use of CAMS. The DBM will not be tasked to perform data input other than data base management duties. Data input responsibility resides with the functional OPR for the information.

12.3.1. Perform host CAMS responsibilities when the AFSOC unit is host for CAMS. The DBM will make sure each tenant unit has access to the CAMS data base and provides assistance on

request in solving all CAMS related problems. They are the sole source of coordination with the Data Processing Center (DPC), Regional Processing Center (RPC), and Network Control Center (NCC) on all matters concerning CAMS. The host must ensure the DPC, RPC, and NCC fully support all requirements concerning the operation and maintenance of CAMS.

12.3.2. Establish procedures in writing to ensure that only authorized and qualified individuals execute routines to maintain the CAMS data base (tenant units also).

12.3.3. Establish policies and procedures for managing the processing of all backgrounds and batch programs. Ensure the running of long programs or programs that consume considerable system assets are coordinated through the local DPC or RPC to minimize impact to other users. The DPC or RPC can provide a system validation table that list valid TRIC codes for CAMS along with various parameters for each program, such as maximum running time.

12.3.4. Develop local procedures for monitoring outgoing reports that are processed through the address system for recovery or retransmission purposes. The host DBM is responsible for ensuring the following programs are processed each month according to AFCSM 21 series directives:

12.3.4.1. RCS Report Preparation Program and RCS Output Program (TRICs RRP and RRO). This program should be processed no later than 0800 hrs local and after the "beginning of the day" (TRIC BOD) has processed.

12.3.4.2. RCS Data Transfer (TRIC RDT). This program must be processed daily. Recommend it be processed along with the RRP and RRO.

12.3.4.3. Engine Status Reporting Update (TRIC ESU). This must be the first transaction processed each month. All CAMS users will be locked out until this transaction is processed.

12.3.4.4. Monthly Manhour Summary (TRIC WAH). Process this program on the first calendar day of the month.

12.3.4.5. Delete History (TRIC DLH). DLH is processed monthly for each active gang. Not more than 120 days will be retained on each database unless authorized by HQ AFSOC/LGMXA.

12.3.4.6. Communications-Electronics (C-E) Delete History (TRIC CDH). CDH will be processed monthly; and for each gang, retaining 60 days on disk.

12.3.4.7. Job Data Documentation (JDD) Delete History (TRIC SHM). SHM will be processed each month for each active gang retaining not more than 1 year of history on the disk.

12.3.5. Identify and Document. Primary and alternate OPRs for each CAMS subsystem will assist users with problems and be the POCs for DBMs (tenant units also).

12.3.5.1. Computer and/or Subsystem Downtime. Notify the subsystem OPR's and users of known computer or subsystem downtime. When the computer or system goes down

unexpectedly, keep users advised of status changes and estimated time it will return to service (tenant units also).

12.3.5.2. **Difficulty Reports (DIREP).** The DBM will determine whether a CAMS system problem can be corrected by the unit or must be referred to the Standard Systems Center (SSC) at Gunter AFB, AL. DBMs will keep the most current copy of the world-wide DIREP listing or have immediate access to the DIREP database before troubleshooting program errors. When it is determined that the problem cannot be corrected at the local level and the problem has not been previously identified by a DIREP, the DBM will document the details of the problem and submit AF Form 1815, **Difficulty Report (DIREP) Worksheet** or sign onto the DIREP database and submit the DIREP.

12.3.5.3. Ensure all subsystem monitors are aware of applicable software problems identified in the DIREP listing or database.

12.3.5.4. Advise subsystem monitors on system advisory notices (SANs) that might affect the operation of their subsystem and give them guidance on using and interpreting them.

12.3.5.5. Notify the appropriate subsystem OPRs when programs and routines are not operating properly. Provide the necessary assistance to determine what action to take pending correction of faulty screens or programs (tenant units also).

12.3.6. **Changes or Additions.** The host DBM is the OPR for local evaluation of the **Communications-Computer Requirement Document (CSR)** AF Form 3215, submitted for changes to CAMS from their unit or tenant users. After the DBM has reviewed and signed the AF Form 3215 it will be forwarded to HQ AFSOC/LGMXA, 100 Bartley St, Hurlburt Field, FL, 32544-5273.

12.3.7. **Control Access.** The DBM will control the number of terminals that can access the CAMS database and assign primary and alternate remote identifiers (ID) and TRIC security, using the MIK TRIC as outlined in AFCSM 21-571, Volume II. The DBM monitors and controls all transaction interface processor (TIP) passwords and access levels on DEMAND passwords issued to functional users. Terminal usage can be monitored using Transactions Monitoring and Analysis System (TMAS) reports, obtained from the local DPC or RPC.

12.3.8. **Database Maintenance.** Host DBMs should schedule or run the following programs with the system off-line as stated. Ensure the database save is accomplished daily for each active database on the host gang. It is also highly recommended to save the database prior to and after any major updates, deletions, or changes to data on the database.

12.3.8.1. **NDA500 Pointer Correction Routine.** Process program NDA500 once each month during scheduled downtime for early detection of pointer errors, or when ever pointer errors are suspected in the database. This program also creates "database patches" in a file that must be executed from the data management routine (DMU) to correct errors that were detected. If NDA500 fails to resolve a database problem, contact the Standard Systems Center Field Assistance Branch, Gunter AFB, AL.

12.3.8.2. Database Editor (DBE). It is recommended that this program be used to verify and fix errors in the database when the program NDA500 is unsuccessful. Coordination with DPC or RPC is required prior to program use.

12.3.8.3. Query Language Processor (QLP, With Update) or Interactive Query Utility (IQU). These programs can also be used to correct database errors, to include specific data items in a record. Coordination with DPC or RPC is required before using these programs (See paragraph 11.7.1.).

12.3.9. Coordination. Coordinate with all affected activities concerning the loading of new releases, special programs, and changes to existing programs (tenant units also).

12.3.10. Publications Requirements. Maintain a complete set of AFCSM 21 series manuals, and other applicable publications (tenant units also).

12.3.11. Recovery Procedures Requirements. Establish CAMS recovery procedures (OI, group commander policy letter, etc.). Procedures will address responsibilities of staff and work center functions for tracking and updating the data base when the system comes back on-line (tenant units also).

12.3.12. Problem Reporting Procedures Requirements. Set up procedures for CAMS users to report abnormal disk conditions and report problems with screens or programs and ensure that appropriate corrective actions are initiated (tenant units also).

12.3.13. Validation and Documentation of IQU and QLP Requirements. Validate and document background IQU and QLP requirements on a yearly basis. Ensure reports are printed on the correct part paper, coordinate changes with the RPC or DPC (tenant units also). (See paragraph 12.2.8.3.).

12.3.14. Contingency Plan for Database Maintenance. In conjunction with the DPC, host analysis, and functional users, develop a contingency operation plan for maintaining the data base when the computer goes down, IAW AFI 33-202, *Air Force Computer Security Program*. In general, these plans should encompass limited and long-term outages, requirements for manual documentation, and processing at alternate site locations. Identify the personnel required to support off-site processing.

12.3.15. CAMS Training Development. Assist training management in developing training for all CAMS users.

12.3.16. Deployment Update Procedures. Establish written procedures for updating CAMS during deployments.

12.3.17. Host CAMS Support for Tenant Units. In tenant maintenance units, ensure CAMS data base management capabilities are commensurate with unit responsibilities. Coordinate with

Logistics Plans to establish host/tenant agreements IAW AFI 25-201, *Support Agreement Procedures*, to ensure continual host support will be provided in areas not otherwise addressed.

12.4. Analysis Responsibilities. As a minimum, analysis is responsible for the following:

12.4.1. Collection and maintenance of unit data, ensuring data is backed up, and frequently used data is available for quick reference. Prepare all the background reports for the squadron and schedule/coordinate the processing with the Logistics Support Squadron CAMS DBM.

12.4.2. Preparation of studies, summaries, briefings, and presentations as required. Emphasis will be placed on identifying and explaining significant deviations from the norm including proposing corrective actions as applicable.

12.4.3. Informing agencies within the squadron of products available to maximize benefits of the data collection systems. As a minimum, analysis will publish a written assessment of the sections capabilities and distribute it throughout the squadron. Update the document with new products when available.

12.4.4. Providing specific information in response to special requests. Determine if the information is available in existing products and assist the requestor in interpreting and correlating the data to meet the requirement. If the information requested is not available in standard reports utilize QLP or IQU to provide the needed information. Coordinate all special data requests against the CAMS database with the LSS DBM.

12.4.5. Developing local job averages from unit historical data as required.

12.4.6. Developing attrition rate forecasts. Provide monthly attrition projections to Plans and Scheduling from seasonally similar months with a minimum of 2 years of historical data.

12.4.7. Assisting all sections within the AGS, HGS, and MXS on CAMS related issues. Refer issues beyond their capability to the CAMS DBM for help in resolution.

12.4.8. Preparing all squadron inputs required for inclusion in wing/group consolidated reports. Support squadron as directed by the senior analyst.

12.5. Data Integrity Process/Team. Data integrity process/teams are established to ensure CAMS documentation is accurate. Maintenance systems analysis is the OPR for this process. Work center supervisors are responsible for ensuring documentation in CAMS is accurate. Squadron commanders are responsible for ensuring their work center supervisors are reviewing documentation in CAMS and that error rates are minimal.

12.5.1. Analysis will have the following responsibilities in the data integrity process:

12.5.1.1. Run a maintenance action review background report (or a locally developed program) for all maintenance performed the previous day, broken out by squadron and work center.

12.5.1.2. Develop a system to keep track of errors by work center, squadron, group, and wing. Errors will be counted based on work center event (WCE). The maximum error per WCE is one.

12.5.1.3. Maintain a cumulative error rate database.

12.5.1.4. Provide feedback to users by presenting the error rate and number of errors by work center, squadron, group, and wing at a monthly or quarterly maintenance meeting to the wing LG and the MXS commander. Provide the type of errors being found on a group/wing level to identify negative documentation trends. This information will be included in the monthly maintenance digest/summary.

12.5.1.5. Develop a formal briefing/course on analysis responsibilities and capabilities that will be included as part of the in processing of new maintenance personnel. The briefing/course as a minimum will cover; CAMS responsibilities, maintenance data collection (MDC) documentation and work center supervisors responsibilities, importance of MDC documentation, trend analysis, special studies, how this information can help with identifying problem areas for the maintenance manager and an explanation of all indicators and formulas that are tracked.

12.5.2. Work center supervisors will review the maintenance action review background report or locally developed program and make corrections in the CAMS database as required.

12.5.3. Squadrons may establish a data integrity team to ensure the accuracy of CAMS documentation. This team will include representatives from each AMU and maintenance squadron (CRS and EMS) as well as participation from PS&D, AMCC, and QA. Representatives will be at least a 5 skill level, be familiar with the units assigned weapon(s) system, and T.O. 00-20-2, *Maintenance Data Collection*. Each unit should develop local error rate goals that are challenging and attainable.

12.5.4. Quality Assurance will do spot checks of the AFTO Form 781As. The following error types should be evaluated:

12.5.4.1 Mismatch of write-up in forms versus CAMS

12.5.4.2 Signed off in forms but not completed in CAMS

12.5.4.3 Completed in CAMS but not signed off in forms

12.5.4.4 No job control number in forms

12.5.4.5 Corrective action in CAMS does not match forms

Chapter 13

AIRCRAFT/HELICOPTER GENERATION AND MAINTENANCE SQUADRON

13.1. Aircraft/Helicopter Generation, Maintenance (MXS), and Special Operations Squadrons (31 SOS maintenance only). The Aircraft/Helicopter Generation Squadrons have one Sortie Generation flight for each mission design series (MDS) subdivided into five sections: the production section, crew chief section, specialist section, plans and scheduling and sortie support section. All (MXS) consist of four flights: Equipment Maintenance, Logistics Support, Sortie Generation (352 MXS has two sortie generation flights; MH-53J and MC-130), and Sortie Support flights. Each MXS has a scheduling function located within the logistics support flight. These flights are concerned with managing and performing on-equipment maintenance through the procedures in this instruction, its allied publications, and T.O.s. The 16 MXS also performs off-equipment maintenance through the host Equipment Maintenance Squadron.

13.2. Squadron Commander Responsibilities. The squadron commander is responsible to the LG/CC (OG/CC for 6 SOS and SOG/CC for overseas units) for maintenance production. The squadron commander will:

13.2.1. Provide guidance on managing the unit maintenance workload. Review plans prior to being published to ensure the maintenance activities have the ability and resources to meet requirements. Provide inputs to squadron scheduling and the LSS maintenance operations flight (LSF for 16 MXS) directly or through the squadron senior maintenance officer (31 SOS only).

13.2.2. Enforce the use of technical data by all personnel performing maintenance.

13.2.3. Ensure all assigned personnel are properly trained and qualified for the duties they perform.

13.2.4. Designate production inspectors and exceptional release personnel.

13.2.5. Establish squadron procedures for the aircraft structural integrity program. Ensure compliance with requirements in AFI 63-1001, *Aircraft Structural Integrity Program (ASIP)* and AFI 21-105, *Aerospace Equipment Structural Maintenance*.

13.2.6. Maintain liaison with base medical services responsible for monitoring potential environmental hazard conditions in maintenance areas.

13.2.7. Provide guidance on aircraft document reviews. Include assignment of responsibilities, items to be checked, and frequency of checks.

13.2.8. Provide guidance, in MOI format, for aircraft cannibalization actions as directed by the LG/CC or equivalent. This guidance should be in accordance with AFI 21-101, *Maintenance Management of Aircraft*, Chapter 6, T.O. 00-20-2, *Maintenance Data Collection*, Section V; Air Force Manual 66-279, Volume VI, *Maintenance Event Subsystem*, Section 2.2; and AFSOCI 21-

108, *Logistics Support Operations*. Cannibalization actions should be a last resort when a non-mission capable (NMC) condition prevents the accomplishment of a mission and the required asset is not immediately available from supply.

13.2.8.1. Restrictions, specific procedures, individual responsibilities, and documentation requirements shall be outlined in detail for home station and deployed operations.

13.2.8.2. Cannibalization actions must be documented in the Maintenance Management Information System (MMIS), regardless of unit location, if the system is available.

13.2.8.3. Personnel must be trained and fully certified in the use of CD-ROM computer technology in order to enter and retrieve data from the MMIS.

13.3. Maintenance Supervision. Maintenance supervision (Maintenance Officer/Supervisor, Maintenance Superintendent and Production Superintendent) provides guidance for the maintenance effort by directing overall maintenance production. This is done through flightline expeditors, flight chiefs, and interacting with other off-line support functions, including maintenance supervisors from equipment and component repair squadrons. (Equipment and component repair functions are aligned under the Equipment MX Flight in MXS units.) They ensure aircraft are safe to fly by close-in review and monitoring of aircraft status and all efforts to achieve a mission ready posture. They certify aircraft mission capability by documenting the exceptional release (ER) in the aircraft AFTO 781 series forms. Maintenance supervision exercises command authority for all decisions to cannibalize parts or initiate a tail number swap to support mission requirements. Final authority for workday duration and flightline closure due to weather or other constraints rests with maintenance supervision as well, unless dictated otherwise by higher level authority.

13.3.1. Ensure decontamination procedures for aircraft contaminated by nuclear, biological, and/or chemical agents are strictly complied with in accordance with Air Force and AFSOC instructions. Command guidance OPR is HQ AFSOC/CE.

13.3.2. Ensures aircraft crew chief is present during entire phase/ISO inspections.

13.4. Plans and Scheduling and Documentation. Squadron scheduling is established under the sortie generation flight (Logistics Support Flight for all MXSs) reporting to the maintenance officer/supervisor and is the focal point for all squadron maintenance planning. This office maintains liaison with P&S in the LSS (except MXSs). Schedulers will be physically located within each sortie generation flight to expedite scheduling processes (Not required for MXSs). Squadron scheduling will:

13.4.1. Forecast, schedule, and monitor completion of scheduled aircraft maintenance, scheduled and special inspections, TCTOs, and replacement of TCIs.

13.4.2. Schedule the use of squadron aircraft to meet flying requirements by coordinating with the squadron senior maintenance officer (31 SOS only)/AMU production superintendents and sortie generation flight schedulers.

13.4.3. Coordinate the use of shared resources; for example, specialist support, wash rack, inspection dock, etc., with P&S in the LSS. (Not applicable for the 16 MXS).

13.4.4. Maintain historical records for assigned aircraft e.g. aircraft jacket files and AFTO Forms 95, **Significant Historical Data**.

13.4.5. Schedule aircraft in support of technical representative visits.

13.4.6. Schedule aircraft in support of outside agency/contractor visits.

13.4.7. Maintain close contact with the local training detachment and the Maintenance Training Flight in the LSS to optimize scheduling effectiveness for on-and off-equipment aircraft and ancillary personnel training.

13.4.8. Conduct aircraft forms document reviews.

13.5. Sortie Generation Flight. Each sortie generation flight is composed of three sections: the sortie support section, crew chief section, and specialist section. PS&D personnel are positioned in the flight to provide more efficient scheduling support for each MDS. (The 16 MXS Sortie Generation Flight is composed of five sections: Crew Chief, - 21 Mission Support Equipment, Electro-Environmental, Pneudraulics and Propulsion Sections). (352 MXS has two Sortie Generation Flights. MC-130 Sortie Generation Flight has two elements; Mechanical element consists of APG, Hydraulics and Propulsion. The Specialists Element consists of Electro-Environmental, Communication/Navigation and Guidance/Control. The MH-53J Sortie Generation Flight has three elements; APG, Weapons and Specialists). The sortie generation flight chief is responsible to the maintenance officer/supervisor for the management, supervision, and training of assigned personnel. In addition, the flight chief will establish and publish guidance outlining responsibilities and required actions for flightline expeditors, section chiefs, crew chiefs, specialists, support personnel, and debrief personnel.

13.5.1. Debriefing. The purpose for debriefing is to thoroughly debrief all aircrew members, document aircraft condition, and collect inflight data. An aggressive debriefing program is essential to ensure malfunctions identified by aircrews are properly reported and documented. Debriefing is normally conducted at the termination of each mission or abort. Debriefing should be accomplished by a trained debriefer with additional specialists (as required) at a predesignated location or facility. Debriefers will use a unit established aircraft debriefing checksheet.

NOTE: When conditions render conventional debriefing totally impractical, it may be accomplished on board the aircraft, provided all required actions can be completed. Additionally, deployed AFSOC aircraft recovered by an AFSOC maintenance unit will be handled exactly the same as home station.

13.5.1.1. Operating When CAMS Not Available. Units operating under the automated debriefing module of the Core Automated Maintenance System (CAMS) use blank printouts of CAMS debriefing screens or locally developed forms when CAMS is not available.

13.5.1.2. Responsibilities. Logistics group, 31 SOS, and maintenance squadron commanders are responsible for compliance with this section.

13.5.1.3. Coordination Between AMCC and Debriefing Sections. The LG/CC or senior maintenance officer ensures local procedures are established to ensure coordination occurs between debriefing sections and the AMCC for each mission or abort.

13.5.1.4. Documentation of Aborts and In-Flight Emergencies (IFE). The LG/CC or senior maintenance officer ensures local procedures are established to document the causes and the corrective actions of all aborts and in-flight emergencies. All units will document aborts/IFEs using a computer generated product (e.g. CAMS data). Debriefers complete and maintain abort/IFE documentation as determined locally. Information will be tracked, for local purposes, if desired. Proper documentation in CAMS ensures data is reviewed by the performing work center supervisor, AGS, HGS, MXS, or 31 SOS MX supervision, QA, and maintenance analysis as applicable.

13.5.1.5. Establish a Debriefing Element. The flight chief ensures specialists are available for debriefing, through the specialist section chief, to assess weapons systems performance. Debriefing personnel must thoroughly understand and use the approved Minimum Essential Subsystem List (MESL) for each unit Mission Design Series (MDS) they debrief.

13.5.1.6. Update Operational Utilization Data. Use operational utilization update screens to input flying time information. Units develop local procedures to ensure flying times and event history recorder (EHR) readings, if equipped, for home station and deployed missions, are updated not later than the next day after occurrence. Units ensure the data processing center (DPC) pseudo drains the AFORMS data between 2000 and 2400 hrs the same duty day.

13.5.1.7. Debriefing Responsibilities:

13.5.1.7.1. Perform Aircrew Debriefing. Debrief all completed or attempted missions to include OCFs and FCFs. Ensure the aircrews are thoroughly debriefed following the procedures outlined in AFM 66-279, Volumes 1 and 2 to complete the applicable screens in the automated debriefing subsystem. When debriefing missions flown cross-country or off station, contact AMCC to obtain the correct sortie sequence number for each sortie, if not available through CAMS. Use AFSOC Form 25, **Debriefing and Recovery Data**, for manual documentation purposes.

13.5.1.7.2. Develop and Maintain Debriefing Record Files. A file will be maintained for each aircraft ID number. This file will contain, as a minimum, the automated sortie recap covering the last four missions to aid in properly identifying repeat/recurring discrepancies.

13.5.1.7.3. Identify Repeat and Recurring Discrepancies. With the assistance of technicians, ensure previously documented discrepancies are reviewed and identified repeat/recurring as applicable. Identify all repeat/recurring discrepancies on the automated debriefing sortie recaps and aircraft forms by automated method or red stamp/pen/marker, etc.

13.5.1.7.3.1. Repeat Discrepancies. A repeat discrepancy on an aircraft occurs on the next sortie or attempted sortie after corrective action has been taken and the system or subsystem is used and indicates the same malfunction.

13.5.1.7.3.2. Recurring Discrepancies. A recurring discrepancy on an aircraft occurs on the second through fourth sortie or attempted sortie after corrective action has been taken and the system or subsystem is used and indicates the same malfunction. A corrective action occurs when parts are removed, replaced, repaired, adjusted, or cleaned (such as contacts) as required to return the system/subsystem to operational capability.

NOTE: A write-up in the aircraft forms requesting an in-flight operational check does not negate the requirement for identification of a repeat/recurring discrepancy if the malfunction returns.

13.5.1.7.4. Coordinate Landing Status and Status of Aircraft. Debriefing will provide the AMCC with aircraft ID numbers and system WUCs for each aircraft debriefed Alpha #3 (which caused the status) using the MESL. The maintenance officer and production superintendent will make the final determination on the mission capable status of aircraft. The sortie generation flight chief will ensure status is updated in CAMS.

13.5.1.7.5. Mission Identification Codes. Develop local mission identification codes to identify types of missions flown and reported in CAMS.

13.5.1.7.6. Update Daily flying Schedules. Debriefers enter one of the codes developed locally, in accordance with AFM 66-279, Volume I, *Core Automated Maintenance System*, to indicate the reason for a deviation or the agency which caused the deviation.

13.5.1.8. Deployed Procedures. Reference paragraph 11.9.2.4.

13.5.2. Sortie Support Flight/Section. The Sortie Support Flight/Section is composed of three sections/elements: Tool Issue/Bench Stock, Supply/MSRP, and Mobility Element (units may be authorized to maintain –21 equipment to meet mission requirements). The sortie support flight chief is responsible for the following areas.

13.5.2.1. Tool Issue Section/Element. The tool issue section/element maintains Composite Tool Kits (CTK) IAW AFI 21-101, T.O.32-1-101, *Maintenance & Care of Hand Tools*, and local procedures. Maintains special tools, test, measurement, and diagnostic equipment and ensures calibration requirements are met IAW T.O.s 33K-1-100, 00-20-14 and other applicable directives concerning the use, care, handling and transportation of equipment owned by the section.

13.5.2.1.1. Maintains T.O. files according to T.O. 00-5-1 and 00-5-2.

13.5.2.1.2. Maintains an adequate bench stock. Bench stock display boards or other visual aids may be used to readily identify frequently used expendable items.

13.5.2.2. Mobility Element. The mobility element is responsible for maintaining mobility assets/fly away kits IAW local procedures. Helicopter units will also maintain ATKs (air transport/aircraft teardown kits).

13.5.2.3. Supply Section/Element. The supply section maintains bench stock IAW AFMAN 23-110, *USAF Supply Manual*. If additional guidance is needed, written guidance should be provided by the sortie support flight/section chief. (The 16 MXS bench stock is maintained separately. Their supply function is to act as a material supply liaison and manage unit MRSP kits).

13.5.3. Crew Chief Section. The crew chief section (352 MXS has a Mechanical Element consisting of APG, Pneudraulics and Engine specialists) performs servicing, scheduled, and unscheduled maintenance, preflights, basic postflights, thru flights, home station checks, special inspections, corrosion control, aircraft cleaning, ground handling, launching and recovery of aircraft, troubleshooting and adjustment, on-equipment repairs, and component removal and replacement. The Flying Crew Chief (FCC) Program is established within the crew chief section. AFSOC units will follow the guidance in AFI 21-101 and Chapter 16 of this publication for participation in the FCC Program.

13.5.4. Specialist Section (Not applicable to 16 MXS). The specialist section performs on-equipment system troubleshooting, adjustment, repairs, component removal and replacement, aircraft cleaning, servicing and ground handling. The specialist elements should not be subdivided by specialty; i.e., subdivision within an element, such as split in Aircraft Guidance and Control Section (AGCS) between instrument and autopilot specialties.

Chapter 14

COMPONENT REPAIR SQUADRON

14.1. Component Repair Squadron. The Component Repair Squadron (CRS) consists of three flights: Avionics Flight, Accessories Flight, and Engine Flight. (The 16, 352, and 353 MXS retain these functions within the equipment maintenance flight. Additionally, these units will follow the next lower echelon rules for assignment of responsibilities IAW paragraphs 2.2.1, 2.2.2 figures 2.1 through 2.13, and 2.2.3 figure 2.6).

NOTE: Personnel assigned to these flights perform both on-and off-equipment tasks. The 16 CRS has on staff an acquisition function (16 CRS/LGMX) reporting directly to the squadron commander on matters relating to procurement and funding of avionic systems and upgrade packages. This function may be delegated to the individual sections.

14.2. Avionics Flight. The avionics flight consists of communications-navigation, guidance and control, sensor, and electronic warfare systems sections. The flight performs diagnostic analysis and on or off equipment avionics maintenance on assigned aircraft and associated equipment within the assigned capabilities.

14.2.1. Communication-Navigation Section. The communications-navigation section maintains aircraft communication and navigation systems and components. This includes radio and interphone communications, radio/radar/doppler navigational aids, identification friend or foe (IFF) systems, and the beacon tracking radar. This section also maintains assigned test and support equipment which is not maintained by the Test, Measurement, and Diagnostics Equipment (TMDE) flight.

14.2.2. Guidance and Control Section. The guidance and control section maintains the following aircraft systems and components: engine/flight/navigation instruments, flight director systems/compass/inertial navigation systems, automatic flight control systems and displays, and integrated subsystems. This section also maintains assigned test equipment which is not maintained by the TMDE flight. AGCS is also responsible for inspection, calibration, and repair of torque wrenches.

14.2.3. Sensors Section. The sensors section provides on- and off-equipment and phase maintenance support for infrared detecting systems, laser systems, night vision devices, airborne videotape recorders, low-light-level television systems, stabilized tracking set, and airborne video monitors. The section maintains assigned test and ground support equipment not maintained by the TMDE flight.

14.2.4. Electronic Warfare Systems Section. The EWS section performs on- and off-equipment maintenance on defensive and offensive airborne electronic countermeasures, infrared countermeasures, radar warning receivers, infrared warning receivers, and expendable countermeasures dispensers. Upload and download air combat maneuvering instrumentation launcher and adapter for Wings/Groups where no weapons (2W1XX) personnel are assigned.

The EWS Section maintains assigned test equipment not maintained by the TMDE Flight i.e. reprogramming support equipment.

14.3. Accessory Maintenance Flight. The accessory maintenance flight consists of three sections: electro-environmental, fuel systems, and pneudraulics sections. The accessory maintenance flight performs both on- and off-equipment maintenance on assigned aircraft and equipment.

14.3.1. Fuel Systems Section. (For all the 352/353 MXS and the 31 SOS, fuel systems support is provided by the host unit). The fuel systems section maintains, repairs, functional checks, and inspects range extension (helicopters)/benson tanks (C-130s), aircraft fuel systems, and components (except components installed on engines). The fuel system section chief will:

14.3.1.1. Ensure safety training, including respirator training, is provided to personnel who work in aircraft fuel cells.

14.3.1.2. Ensure procedures are set up and followed for notifying the base fire department when fuel cell internal repairs are in progress.

14.3.1.3. Provide storage and protective covering for range extension/benson tanks when they are not installed on an aircraft.

14.3.1.4. Ensure comprehensive written emergency procedures are tailored to each facility including open repair areas and weapon system maintained.

14.3.1.5. Ensure all personnel receive practical emergency training on each weapon system.

14.3.1.6. Ensure base emergency response exercises are conducted.

14.3.2. Pneudraulic Section. The pneudraulic section maintains aircraft hydraulic and high pressure pneumatic systems and components (except environmental systems). It also provides assistance to the aerospace ground equipment (AGE) flight (N/A to 16 MXS). To provide this support, the pneudraulic section has in-shop capability to service, repair, modify, and test components of these systems (N/A to 16 MXS). This shop manufactures and tests flexible hose assemblies and tubing assemblies. It also does hydraulic fluid sampling on assigned test stands and servicing equipment as required (N/A to 16 MXS). If required, the pneudraulic shop establishes an air refueling system maintenance capability to maintain peculiar electrical, hydraulic, and mechanical components. It may support Isochronal Inspections, if required.

14.3.3. Electro-Environmental Section. The electro-environmental section performs off-equipment maintenance on aircraft liquid and gaseous oxygen and nitrogen systems, air conditioning, pressurization, fire extinguisher or suppression (including explosive squibs), vacuum, anti-icing, bleed air systems, and combustion heater systems and components. This section also maintains aircraft electrical and support equipment electrical systems and components. The shop has in-shop capability to service, repair, modify, and test components of

these systems. This shop repairs gaseous and liquid oxygen and nitrogen servicing units (excluding the basic trailer or chassis and user type maintenance). The electro-environmental section also manufactures, repairs, overhauls, tests, modifies, and inspects aircraft and support equipment electrical components, batteries, and charging units when authorized. (The 16 MXS has limited repair capability). The shop maintains assigned test equipment not specifically maintained by the TMDE branch. It may support isochronal inspections, if required.

14.4. Propulsion Flight. The propulsion flight (excluding the 16 MXS) includes the following : JEIM, Test Cell, Propulsion Support, Propeller Maintenance, and Isochronal Inspection Sections. The flight provides off-equipment maintenance (inspection, repair, engine tests) on propulsion units, propulsion components, and propellers. This includes engine and propeller teardown, build-up, inspection, test, and repair of modules, engines, propellers, and components in-shop. It also ensures test stands, airlift trailers, maintenance and storage stands, and mounting adapters are controlled and properly maintained. It performs acceptance inspections as required. The propulsion flight chief develops and enforces local engine management directives for controlling engine assets. The JEIM section plans and tracks the flow of engines through the engine section.

Chapter 15

EQUIPMENT MAINTENANCE SQUADRON

15.1. Equipment Maintenance Squadron. The Equipment Maintenance Squadron (EMS) consists of five flights: maintenance, aerospace ground equipment, weapons, munitions, and fabrication flights. EMS performs on-and off-equipment maintenance on assigned aircraft and associated equipment within the capability of assigned specialists, equipment, and facilities. EMS also performs on-equipment maintenance for other assigned wing activities when the required maintenance is beyond the owning activities capability. When munitions operations and munitions maintenance functions are assigned, the EMS squadron commander will:

NOTE: The 16, 352 and 353 Equipment Maintenance Flights consist of all standard EMS functions, as well as all component repair squadron (CRS) functions, except those provided by the host unit. 352 MXS receives Accessory and Fabrication support from the 100 ARW.

15.1.1. Notify HQ AFSOC/LGMW when the capability to perform the munitions mission is adversely affected.

15.1.2. Request audits from the Air Force Audit Agency when the validity of the FK account is in question.

15.2. Maintenance Flight. The maintenance flight consists of two sections; inspection section and mechanical section. The inspection section has three elements: C-130 isochronal inspection, H-53 isochronal inspection, and H-60 phase. The mechanical section has three elements: transient alert (TA), repair and reclamation (which includes wheel and tire shop), and -21 (mission support equipment). In the 16 MX flight responsibilities are carried out by four sections: Avionics, AGE, Structural Maintenance and Fuel Systems. The 352 and 353 MX flights consist of Weapons, Fabrication, Maintenance, Munitions, Avionics, Accessories, and Propulsion Sections.

15.2.1. Inspection Section:

NOTE: Inspection Section authorized in this flight IAW AFI 38-101, *Air Force Organization*. The 352 MXS is the only maintenance squadron with organic isochronal inspection capability. The 16 and 353 MXS inspection requirements are provided by 16 EMS and 374 AW respectively, with the sole exception of the 31 SOS which has organic isochronal inspection capability due to geographic separation. In addition, avionic systems inspection requirements beyond the capability of 16 EMS and 374 AW may be supported by 16 CRS and 353 MXS personnel respectively. The inspection section performs major and minor isochronal inspections, special inspections, and phase inspections. It may also perform preflights, basic post flights, hourly post flights, thru flights, TCTOs, home station checks, and refurb. The inspection section also maintains its assigned non-powered AGE (NPA) such as dock stands. In units maintaining multiple weapon systems, the inspection section may be divided into separate elements for each type aircraft maintained (i.e., H-53 inspection element, C-130 inspection element). The inspection section chief will:

15.2.1.1. Ensure appropriate management tools, such as inspection flow plans, specialist scheduling charts, and inspection workcard controls are set up, and implemented.

15.2.1.2. Ensure effective utilization of specialists by developing procedures to plan, coordinate, and direct their efforts.

15.2.1.3. Ensure all maintenance actions are properly performed and documented through periodic inspection and review of aircraft and forms.

15.2.2. Mechanical Section. The mechanical section has responsibility for all transient aircraft servicing and maintenance (16 EMS only), C-130 intermediate maintenance, and maintenance of - 21 support equipment (16 EMS only). (In MXSs, all of these are separate functions at the section level with the exception of TA. TA functions are the responsibility of the applicable host unit). However, the functions are not common to all units. Refer to the applicable organizational chart found in Chapter 2 of this instruction.

15.2.2.1. TA Element. (16 EMS only). Provide launch, recovery, and other maintenance support for transient aircraft. The transient flight chief will:

15.2.2.1.1. Ensure the proper maintenance and reimbursement documentation is completed.

15.2.2.1.2. Ensure that status changes of transient aircraft are relayed to the AMCC.

15.2.2.1.3. Ensure AF Form 861, **Base/Transient Job Control Number Register**, is completed for transient aircraft. Send this form and a count of total landings by MDS to analysis once each month.

15.2.2.2. Repair and Reclamation (R&R) Element. (For the 352/353 MXS, this element is a section under the maintenance flight. Not applicable for 16 MXS and 31 SOS. Intermediate repair capability is organic to the respective sortie generation flight. Crash Recovery support provided by the 46 Test Wing and 51 Fighter Wing respectively). The repair and reclamation element performs maintenance on flight controls, landing gears, doors, and associated equipment. Wheel and tire inspection, build-up, repair, test, storage of aircraft tires inspection, and servicing aircraft of wheel bearings are the responsibility of this element as well. It also maintains the capability for recovery and reclamation of equipment and damaged or crashed aircraft. This includes:

15.2.2.2.1. Coordinating with the base fire department, safety, disaster preparedness, AGS/HGS/16 MXS (as applicable), and other required agencies to develop procedures outlining crash recovery requirements.

15.2.2.2.2. Ensuring crash recovery personnel and equipment are exercised frequently enough to adequately perform crash recovery duties.

15.2.2.2.3. Ensuring custodial and storage responsibilities for special purpose equipment are specifically assigned to the crash recovery mission.

15.2.2.2.4. Ensuring crash recovery equipment is periodically inventoried and inspected. Ensure required equipment is on hand and serviceable.

15.2.2.2.5. Identifying requirements and responsibilities for special purpose and crash recovery vehicles.

15.2.2.3. Mission Support Equipment Element. (Not applicable to the 31 SOS and 16 MXS. Support for -21 equipment provided by the crew chief section of the sortie generation flight. This element is located within the equipment maintenance section for the 353 MXS and Sortie Support Section for 352 MXS). The mission support equipment element stores, inspects, inventories, controls, and performs off-equipment maintenance on -21 T.O. equipment and alternate mission equipment (AME). When the amount of equipment to be maintained does not justify establishing a separate element, these responsibilities may be delegated to the sortie support section in the AGS/HGS as required. In any case, supporting instructions must be established at unit level in order to effectively manage command assets. This guidance must support and not diminish the guidance found in AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*. Inventory will be accomplished using AFSOC Form 31A/B, **Aircraft -21 Equipment Inventory**.

NOTE: In Reserve units, the Mission Support Section will be assigned to the AGE Flight. Responsibilities will also include scheduled and unscheduled repair, modification, and inspection of NPA.

15.3. Aerospace Ground Equipment (AGE) Flight. (Not applicable to the 352 and 353 MXS which are supported by host units. This flight is designated as a section under the equipment maintenance flight in the 16 MXS). The AGE flight performs pickup, delivery, troubleshooting, scheduled and unscheduled repair, modification, inspection, and servicing of AGE to support the mission. The AGE flight is organized into one or more Combat AGE Teams (CAT) and a production support section (16 MXS has a Production Support Element).

15.3.1. The AGE flight chief will:

15.3.1.1. Ensure seasonal equipment is adequately protected during the off season.

15.3.1.2. Ensure AGE inspections and known requirements are included in appropriate maintenance plans when required by the group commander.

15.3.1.3. Personnel will be rotated as needed between the Combat AGE Teams to facilitate training and ensure currency in all areas.

15.3.1.4. Ensure physical equipment inventory is completed annually by utilizing a current Custodian Authorization/Custody Receipt Listing (CA/CRL).

15.3.2. AGE Production Support. Production support is responsible for scheduling, monitoring, and controlling AGE maintenance. This includes scheduled maintenance, unscheduled

maintenance, component repairs, TCTO actions and supply request. The production scheduler sets up priorities based on the minimum number of each type of equipment required to be in-commission and informs the AGE production superintendent when the in-commission equipment numbers fall below the minimum number required (as determined locally).

15.3.3. **Combat AGE Team.** A Combat AGE Team (CAT) is responsible for periodic inspections, special inspections, and minor/major maintenance on assigned equipment. Based on the number and types of weapons systems supported, more than one CAT may be established. When additional CATs are desired, ensure manning levels are high enough to sustain its operation. When more than one CAT exists, equipment is assigned to each CAT based on allowance standard authorizations for each weapons system, and a corresponding number of personnel are assigned to each CAT. CAT equipment may be differentiated by a piece of colored tape located under the field number. The CAT manager will coordinate with production support on any scheduling matters, equipment status, ETIC, priorities, and deviations.

15.3.4. The CAT will service, pick up and deliver equipment in support of their assigned squadron. The Combat Age Team supervisor will:

15.3.4.1. Ensure drivers coordinate equipment movements with production supervisors.

15.3.4.2. Ensure drivers service AGE prior to dispatch and police AGE when no longer required.

15.3.4.3. Ensure drivers check fuel levels on dispatched AGE to prevent interruptions in aircraft launch or recovery operations.

15.4. Weapons Flight/Section. (Not applicable to 16 and 353 MXS. The weapons section is located in Equipment Maintenance Flight for the 31 SOS and the MH-53J Sortie Generation Flight for the 352 MXS). The weapons flight is organized to include production control, armament system section (or fixed wing section and rotary wing section), and weapons support section. The weapons flight provides the capability to load munitions and maintain weapons release systems, guns, munitions pylons, racks, launchers, and adapters.

15.4.1. The weapons flight/section chief will:

15.4.1.1. Ensure an interface exists between weapons and munitions to account for munitions usage.

15.4.1.2. Be the focal point for the utilization and assignment of 2W1X1 weapons personnel.

15.4.1.3. Ensure that only properly trained personnel perform munitions loading tasks and ensure an adequate number of load crews are trained to perform the mission.

15.4.2. **Armament Systems Section.** This section performs on- and off-equipment maintenance on assigned weapons release systems, guns, munitions pylons, racks, launchers and adapters. This includes performing maintenance on AME and NIE. The armament system section also loads and

unloads munitions and reconfigures aircraft. When helicopters and fixed wing aircraft (such as MH-53s and AC-130s) are assigned, this section may be divided into a armament rotary wing section and armament fixed wing section. The armament systems section chief (or fixed wing and rotary wing section chiefs) will:

15.4.2.1. Monitor flightline loading and maintenance actions to determine if training is adequate and maintenance standards are met.

15.4.2.2. Control AME by ensuring sufficient quantities of AME are available to configure all assigned aircraft. If this capability drops below 90 percent, inform HQ AFSOC/LGMW.

15.4.2.3. Ensure that AF Form 2434, **Munitions Configuration Expenditure Document**, or equivalent is completed and filed at the end of each flying day. Distribute the form as locally determined.

15.4.2.4. Ensure proficiency loads are performed on all qualified or certified personnel.

15.4.2.5. Ensure a listing is maintained that reflects current load qualification or certification information on all personnel. Include due dates of their next evaluation and academics.

15.4.2.6. Schedule load training, proficiency, and evaluation requirements in coordination with the Weapons Standardization Flight (WSF) or trainer.

15.4.2.7. Ensure tool kits are available for at least 75 percent of the authorized load crews.

15.4.2.8. Ensure all on-equipment maintenance actions are coordinated with the appropriate production superintendent, and the maintenance sections.

15.4.2.9. Ensure priorities and schedules are set for in-shop maintenance actions.

15.4.2.10. Ensure coordination and inputs are made to the plans and scheduling element for the monthly, weekly, and daily maintenance schedules. Include all weapons system TCTO requirements and time changes.

15.4.2.11. Ensure on-time completion of TCTOs and time changes requirements, proper documentation procedures, and automated systems updated. Ensure time change kits are properly maintained for weapons equipment.

15.4.2.12. Equipment historical documents (AFTO Forms 95, **Significant Historical Data**) for Alternate Mission Equipment (AME) and armament systems Normally Installed Equipment (NIE) are kept and updated.

15.4.2.13. Ammunition expenditures are tracked by gun serial number using CAMS or other automated products.

15.4.2.14. Aircraft status boards (automated or manual) are maintained to reflect current aircraft locations, configurations, and munition loads.

15.4.2.15. Track status and location of all NIE.

15.4.3. Weapons Support Section. The weapons support section manages, maintains, and controls assigned tools, special equipment, precision measuring equipment laboratory (PMEL) and technical publications. The function may be combined with support sections from other flights if it provides more efficient service to the maintenance complex.

15.5. Munitions Flight. (Not applicable to 16 MXS and 31 SOS. Munitions requirements for the 31 SOS and 16 MXS are provided by the host unit). The munitions flight consists of four sections: munitions control, munitions production, munitions material, and munitions support. The munitions flight provides munitions support to include on and off-equipment maintenance, receipt, inspection, storage, issue, and accounting of conventional munitions. The unit commander appoints the Munitions Accountable Weapons System Officer (MASO). The person appointed must be fully qualified IAW AFI 21-202, *Combat Ammunition Procedures*. The MASO responsibilities include managing the munitions account in accordance with AFIs 21-201, *Inspection, Storage, and Maintenance of Non-Nuclear Munitions*, 21-202, 21-203, *Deployable Ammunition Operation Procedures*, 21-206, *The Global Asset Positioning Program*, and 21-208, *Munitions Forecast, Allocation, and Buy Budget Processes*.

15.5.1. The Munitions Flight Chief will:

15.5.1.1. Ensure munitions storage areas (MSA) are properly maintained.

15.5.1.2. Ensure that directives, checklists, and operating instructions are developed, approved, used, and maintained, as applicable.

15.5.1.3. Ensure the MSA conforms to AFMAN 91-201, *Explosive Safety Standards*, and AFJMAN 32-1040, *Maintenance and Repair of Surface Areas*.

15.5.1.4. Ensure written local agreements are made for munitions storage facility usage by other organizations.

15.5.1.5. Ensure the flight can build up, test, repair, troubleshoot, and deliver all munitions for flightline operations at the quantities required by higher headquarters.

15.5.1.6. Ensure munitions maintenance training for all munitions personnel is commensurate with the training and experience requirements for skill level progression as outlined in the current Career Field Education and Training Plan (CFETP), AFSC 2W0S1.

15.5.1.7. Ensure on-time completion of TCTO and time change requirements, proper documentation, and updating automated systems.

15.5.2. Munitions Control Section (MCS). The MCS monitors and controls munitions maintenance production. The munitions control section chief will ensure visual aids are used and that those used provide the maximum utility to the users. The section chief also ensures adequate communications are available and operational (see Table of Allowance 660). Hot lines are required to central security control (CSC) and law enforcement, the MSA entry control point, and the base fire department. Hot lines are also highly recommended to EOD, AMCC, munitions flight office, and all other work centers within the munitions flight. Munitions control will:

15.5.2.1. Track vehicle and support equipment status.

15.5.2.2. Monitor personnel availability (leave ,TDY, etc.).

15.5.2.3. Manage all aircraft munitions requirements in support of daily flying schedule.

15.5.2.4. Plan, coordinate, schedule, and implement the processing of repair cycle assets.

15.5.2.5. Track receipt, implementation, and completion of TCTOs. Consolidate the munitions maintenance requirements for weekly and monthly maintenance plans.

15.5.2.6. Initiate workorders and assign priorities. Where a conflict in priorities exists, decide which workorder has the highest priority.

15.5.2.7. Inform emergency response activities of convoy routes, start times, and destination prior to convoy operations.

15.5.2.8. Develop, maintain, and use emergency action check sheets such as emergency war order notification, crash, fire, severe weather, explosive mishaps, convoy emergency, and emergency destruct of munitions check sheets. Unit operational plans are used as a guide in making these check sheets.

15.5.2.9. Consolidate and schedule the munitions maintenance requirements for weekly and monthly maintenance plans.

15.5.2.10. Ensure continued operational support and maintenance of the Combat Ammunition-Base (CAS-B) hardware.

15.5.3. Munitions Production Section. The production section provides maintenance on conventional munitions, containers, dispensers, training items, and WRM resources. This includes build-up, test, and repair of munitions in support of flightline operations or the UCML, pre-issue inspections on AFI 21-208 and 36-2217, *Munitions Requirements for Aircrew Training*, munitions, and renovation of warehouse stocks when directed by Munitions Control. The Munitions Production Section will also:

15.5.3.1. Perform servicing, periodic inspections, and scheduled and unscheduled maintenance on munitions, nonpowered AGE, and other support equipment as prescribed by the Munitions Flight Chief.

15.5.3.2. Deliver all munitions in support of flightline operations.

15.5.3.3. Manage the AFI 36-2217 munitions account. This includes maintaining required balances, providing input for scheduling of munitions build-up, and being the focal point for daily reconciliation of munitions.

15.5.4. Munitions Material Section. The material section is responsible for munitions inspections, storage and handling operations, and management of munitions warehouses. This includes receipt and shipment of munitions, and operational support to manage base munitions requirements other than AFI 36-2217 assets.

15.5.5. Munitions Support Section. This section manages all aspects of Munition Flight personnel, equipment, and munitions build-up requirements for mobility taskings. The Munitions Support Section will also:

15.5.5.1. Initiate and control all Civil Engineering work order requests for new construction and repair of existing structures.

15.5.5.2. Coordinate, schedule, and track all ancillary training requirements for flight personnel.

15.6. Fabrication Flight. (Not applicable to the 352 MXS. Support provided by the host unit. This is also applicable to the 31st SOS, with the exception of structural repair personnel assigned to the sortie generation flight). The fabrication flight is organized into five sections: metals technology, aircraft structural maintenance, survival equipment, the Engineering Data Services Center (EDSC), and the Non-destructive Inspection (NDI) laboratory. (The 16 MXS has only a structural maintenance element located in the Equipment Maintenance Flight. All other fabrication flight support is provided by the host base). The fabrication flight performs modification, corrosion control, local manufacture, inspection, and repair of aircraft and equipment.

15.6.1. Metals Technology Section. The metals technology section inspects, repairs, fabricates, heat treats and tests metal components for aircraft and AGE. This section manufactures and repairs aircraft and equipment parts, assemblies, tools, and removes fasteners (i.e., bolts, screws, studs) beyond the capabilities of other aircraft maintenance shops. The metals technology section chief will:

15.6.1.1. Ensure machine tool set-up procedures, cutting operations, hand operations, and general machine shop operations are properly performed.

15.6.1.2. Ensure required safety devices for shop machinery are available and used. Ensures safety standards outlined in OSHA and AFOSH standards are followed.

15.6.1.3. Ensure assigned welders are certified as prescribed by AFI 21-105, *Aerospace Equipment Structural Maintenance* and IAW T.O. 00-25-252, *Missile Welder*, and maintain proficiency.

15.6.2. Structural Maintenance Section. The structural maintenance section designs, repairs, modifies, and fabricates aircraft structure of metal, plastic, fiberglass, advanced composites, bonded honeycomb components, system tubing, and control cable assemblies. This section is responsible for detecting, removing, preventing, and chemically treating corrosion, to include removal and application of protective coatings and application of markings for aircraft, support systems equipment, and AGE which are beyond the users' capability. It also manages the aircraft wash rack (unless contractor operated), and corrosion control facilities when assigned to the EMS. The section chief will:

15.6.2.1. Coordinate with the flight chief, base bioenvironmental engineers, safety, and fire department to ensure all safety requirements outlined in OSHA and AFOSH standards are met concerning the use of chemicals and paint.

15.6.2.2. Coordinate with appropriate agencies for disposal of hazardous waste.

15.6.3. Survival Equipment Section. Inspects, repairs, and manufactures fabric, canvas, rubber, and rubberized products for aircraft. Inspects, repairs, and packs personnel parachutes, special operations type parachutes, life rafts, life preservers and exposure suits. (toxicological suits and air cargo pallet nets if applicable).

NOTE: See paragraph 4.9.2. for Ram Air Parachute IPI policy.

15.6.4. NDI Section. The NDI Section is responsible for determining structural integrity of aircraft, specified components, and support equipment. It is also the focal point for the oil analysis program (OAP) (when provided) (AFIs 21-105 and 21-124, *Aerospace Equipment Structural Maintenance and Air Force Oil Analysis Program* respectively; and T.O. 33-1-37, Volume 1,2, and 3, *Joint Oil Analysis Program*). The NDI section chief will coordinate with the flight chief and bioenvironmental health services on radiographic issues.

Chapter 16

AFSOC FLYING CREW CHIEF (FCC) PROGRAM

16.1. Program Responsibilities. This section defines the command policy of the Flying Crew Chief program in addition to the guidance outlined in AFI 21-101, *Aircraft Maintenance Management*.

16.1.1. Headquarter Air Force Special Operations Command (AFSOC): HQ AFSOC/LGM is the OPR for the AFSOC FCC program. HQ AFSOC/LGM will review and approve or disapprove all unit requests.

16.1.2. Logistics Group Commander (LG/CC) MXS/CC for overseas units. The Logistics Group Commander (MXS/CC for overseas) establishes a program providing required indoctrination and training as outlined in paragraph 16.2.2. Resolves any problems identified by the aircraft commander or FCC that were encountered during any mission. Coordinates these requirements with the operations group commander to ensure aircraft commanders and flight crews are knowledgeable of these procedures and their responsibilities contained in this instruction as well as individual FCC responsibilities.

16.1.2.1. Ensures the 16th LG FCC monitor prepares and submits quarterly reports to the 16th SOW FCC Monitor. Overseas MXS FCC monitors will submit their reports to the SOG FCC Monitor.

16.1.2.2. Ensures a local training program is established for FCCs. The training program will encompass FCC duties at off-station locations.

16.1.2.3. Reviews the quarterly summary from the program monitor and resolves problems noted in the summary.

16.1.3. AGS/HGS, MXS, and 6/31SOS Commanders. The squadron commander is responsible to the 16 LG/CC (SOG/CC for overseas units) to ensure that:

16.1.3.1. A squadron FCC monitor is appointed.

16.1.3.2. Personnel appointed as FCCs are qualified, motivated, and available for travel.

16.1.3.3. FCCs are issued tools for use during missions.

16.1.3.4. FCCs are issued authorized flight clothing and equipment. The squadron commander determines what flight clothing and equipment items are needed for issue to FCCs in coordination with the applicable flying squadron commander. As a minimum, this means all equipment necessary for personnel safety during the mission.

16.1.3.5. FCCs are included on the AFSOC Form 41, **Flight Authorization**, and procedures are established for last-minute changes during duty and non-duty hours.

16.1.3.6. Ensures sufficient copies of AFSOC Form 41 are provided to the FCC to give to new flight crews during the mission, if necessary.

16.1.3.7. FCCs are issued and have in their possession a helmet and helmet bag when required.

16.1.3.8. Fixed wing FCCs are issued an oxygen mask.

16.1.4. Squadron Flying Crew Chief Program Monitor. The FCC program monitor will:

16.1.4.1. Will submit a quarterly and a annual report to the Group Commander and HQ AFSOC/LGMM to reflect the status of the FCC program. Report suspense dates are the 15th of the month following the end of the quarter. These reports must include information from the categories listed in AFI 21-101, Chapter 3. Retain and dispose of the summaries IAW AFMAN 37-139, *Disposition of Air Force Records*. In addition to the information required in AFI 21-101, the quarterly summary will include the following:

16.1.4.1.1. Name of Crew Chief

16.1.4.1.2. UMD position number

16.1.4.1.3. Number and location of trips accomplished by each crew chief.

NOTE: Report must be sanitized if trip details are classified.

16.1.4.1.4. Inclusive dates of each trip.

16.1.4.1.5. FCCs who were added/removed from the UMD during the quarter and reasons why.

16.1.4.1.6. Problems with the program.

16.1.4.2. Coordinate with appropriate agencies when conflicts arise between FCC travel, scheduled maintenance, upgrade training, appointments, details, etc.

16.1.4.3. Coordinate scheduling of FCCs through flight chiefs and current operations flights.

16.1.4.4. Maintain AFSOC Form 88, **Flying Crew Chief Trip Report**, Report Control Symbol (RCS) #AFSOC LGMMM (Q) 9701. Submit on a quarterly basis on AFSOC Form 88. Information on the form will be as stated for each block. Ensure information required by AFI 21-101 is included in each report as stated in paragraph 16.1.4.1 of this instruction. Maintain (1) one copy on file at squadron level either electronically or on paper. Forward a courtesy copy to HQ AFSOC/LGMM. (Continue reporting during emergency conditions, but defer transmission to higher precedence correspondence. Submit by non-electronic means if possible.

16.1.4.5. Track training qualifications and requirements of each assigned FCC.

16.1.4.6. Ensure FCCs complete a mandatory annual Class III flight physical and mandatory physiological training which will include altitude chamber certification. Subsequent refresher physiological/altitude chamber training is a highly recommended option. (The decision to retain this option must be made jointly by maintenance and operations squadron commanders. The training fundcite will default to the squadron mandating the requirement). These actions must occur prior to submission for addition to the UMD position number. The director of base medical services may grant waivers to certain physical requirements, i.e., vision or strength.

16.1.4.7. Notify HQ/AFSOC LGM, by forwarding reports/summaries, when FCCs are no longer required, available, or qualified to perform FCC duties.

16.1.4.8. Ensure individuals selected for FCC duty are briefed on the criteria for entitlement to Special Duty Assignment Pay (SDAP).

16.1.4.9. Prepare annual FCC manning authorization reports IAW paragraph 16.2.1. Manning levels are established by HQ USAF/LGMM.

16.1.4.10. Submit funding requests for flight clothing, per diem, and other related expenses for the annual budget.

16.1.4.11. Ensure FCCs know their assigned responsibilities.

16.1.4.12. Ensure FCCs are provided a Core Automated Maintenance System (CAMS) or similar product identifying their current task qualifications and certifications.

16.1.4.13. Develop and monitors the FCC evaluation and feedback program (example: attachment 1). We suggest that the address of the FCC monitor be placed on the reverse side of the form.

16.1.4.14. Ensure Operations and Intelligence are provided a list of assigned FCCs.

16.1.4.15. Inform Flight Surgeon Office when FCCs are placed on or removed from the UMD.

16.1.5. Flying Crew Chief Responsibilities:

16.1.5.1. Remain current in task qualifications. Maintain in their possession a CAMS product identifying qualifications and certifications.

16.1.5.2. Possess current shot records, passports (as required), ID tags, money, etc, when traveling with the aircraft.

16.1.5.3. Wear nomex flight clothing while performing duty on missions.

16.1.5.4. Perform limited in-flight duties as directed by the aircraft commander, to include the following:

16.1.5.5. Troubleshoot and repair mechanical, electrical, and avionics systems.

16.1.5.6. Assist during reconfigurations to minimize ground time.

16.1.5.7. Preplan for maintenance specialist support and identify parts required prior to landing to the maximum extent possible in order to expedite aircraft repair. This includes ensuring the appropriate System/Sub-System/Subject Number (SSSN) is placed in the aircraft forms for all discrepancies discovered in-flight and throughout the duration of the trip. Ideally, this should occur before landing, but without fail prior to completion of aircraft debriefing

16.1.5.8. Assist in emergency situations.

16.1.5.9. Prior to mission departure:

16.1.5.10. Will not consume alcohol within 12 hours prior to showtime at the aircraft.

16.1.5.11. Ensures an approved tool kit has been issued from the support section and is on hand.

16.1.5.12. Ensure a -6 preflight inspection is complete prior to crew show, if applicable.

16.1.5.13. Ensure the aircraft is properly configured IAW latest known schedule requirements i.e. fuel, liquid oxygen (if applicable), aircraft interior and exterior mission equipment, etc prior to crew show.

16.1.5.14. Ensure the aircraft exceptional release (ER) is accomplished by maintenance supervision prior to crew show.

16.1.5.15. Identify themselves to the aircraft commander or flight engineer prior to their -1 inspection to ensure immediate response with maintenance problems. Attend the crew briefing (if possible) to ensure complete understanding of the mission and emergency procedures.

16.1.5.16. Accomplish and monitor maintenance on assigned aircraft. Crew chief responsibilities are described in AFI 21-101 and this instruction.

16.1.5.17. Participate in the maintenance debriefing when traveling with the aircraft, when required by the aircraft commander. If not required, the FCC must be fully aware of all aircraft maintenance discrepancies prior to departure of the flight crew from the aircraft.

16.1.5.18. While away from home station:

16.1.5.19. The FCC is responsible to the aircraft commander for aircraft condition and maintenance problems throughout the mission. While at the TDY location, the FCC is responsible

to the aircraft commander and the off-station maintenance manager for the management and maintenance of their assigned aircraft.

16.1.5.20. Establish a work and rest plan at the TDY location as outlined in paragraph 16.5.2.

16.1.5.21. Perform required maintenance, inspections, routine servicing, and ground handling to prepare the aircraft for flight.

16.1.5.22. Establish maintenance communication channels with the appropriate Logistics Readiness Center IAW AFI 21-101 and AFI 21-108, *Logistics Support Operations*. When necessary, coordinate aircraft maintenance recovery, parts delivery, and work repair schedule to establish a estimated time in commission (ETIC) for the aircraft.

16.1.5.23. Complete and submit AFSOC Form 88, **Flying Crew Chief Trip Report**, to document trip data. This includes aircraft tail number, trip dates from and to, mission number, flying hours, and necessary remarks for delays in the system, and highlighted problem areas encountered during the mission.

16.1.6. Aircraft Commander (AC). The aircraft commander is responsible for the FCC during all operations away from home station. However, since the FCC is not on aeronautical orders, he/she is not considered an aircrew member. The aircraft commander will:

16.1.6.1. Provide the FCC with crew rest facilities (when available) during long flights. This is based on duty requirements on the ground after landing and the crew has entered crew rest.

16.1.6.2. Establish with the FCC and maintenance officer or supervisor a work and rest plan based on mission requirements. The AC is the decision authority to determine when the FCC begins a rest cycle for the next mission. The work and rest plan is outlined paragraph 16.5.2.

16.1.6.3. Arrange quarters for the FCC and informs the FCC where the crew is billeted. The FCC is billeted by guidance in paragraph 16.4.1.3.

16.1.6.4. Complete an aircrew FCC Evaluation during aircraft debrief (attachment 1, optional).

16.2. The Flying Crew Chief (FCC) Program Objective. In addition to the objectives outlined in AFI 21-101, Chapter 3, the command objective is to instill pride in ownership which creates a higher state of readiness thru increased reliability and capability of the aircraft.

16.2.1. A Flying Crew Chief (FCC) is normally the ranking individual assigned to a specific aircraft. The FCC is responsible for managing and directing the maintenance effort on his assigned aircraft. FCCs are required to fly on their aircraft on a regular basis to fulfill unit mission requirements and may qualify for SDAP. A local training mission normally does not require an FCC (see AFI 21-101 Chapter 3 for qualifying missions). Hazardous Duty Incentive Pay (HDIP) is authorized for personnel who do not receive SDAP and are required to perform in-flight maintenance for 4 or more flight-hours. Consult HQ AFSOC/DO for criteria for and procedures

to obtain HDIP. Documentation of HDIP flight time will be on AFTO Form 781, **AFORMS Aircrew/Mission Flight Data Document**. Unit FCC monitors may double as HDIP monitors or separate one may be appointed. Sometimes mission requirements may require SDAP FCCs to be assigned to temporary duty (TDY) responsibilities on other assigned aircraft; however, maintenance supervisors should always consider the spirit and intent of the FCC concept beforehand. The maximum authorized number of FCCs as established by HQ USAF/ILMM is currently set at no more than 2 per aircraft to each qualifying mission. Requests for waivers will be in accordance with paragraph 16.5.1. of this instruction.

16.2.2. Flying Crew Chief Selection. Individuals selected as FCCs must be exceptionally competent and highly motivated flightline maintenance personnel. Selection is based on demonstrated responsibility and dedication as well as the technical qualifications addressed in AFI 21-101, paragraph 3.2.6.1. FCCs are assigned to Sortie Generation Flights and perform duties of a crew chief. Additional mandatory selection criteria are as follows:

16.2.2.1. FCCs will be AFSC 2A5X1 or 2A5X2 in the grades of TSgt or SSgt with a special equipment identifier (SEI) for the assigned aircraft. The AFSC requirement is waived when no 2A5XX personnel exist for the available positions. They will possess a 5 or 7 skill-level, have SEI for assigned aircraft, and have a minimum of 18 months experience on the basic mission design series (MDS) of a given aircraft. Further experience requirements on specific variants of an MDS (AC-130H/U, MC-130E/H/P, MH-53, MH-60, CV-22, etc) shall not be less than 60 days.

NOTE: Group Commanders may appoint SrA technicians in exceptional cases.

16.2.2.2. They must receive indoctrination on responsibilities while performing off-station missions as well as aircrew indoctrination, egress (required for fixed wing aircraft, optional for rotary wing aircraft), and life support continuation training.

16.2.2.3. Formal survival training outlined in AFI 36-2209, *Survival and Code of Conduct Training*, is not required, but is desirable .

16.2.2.4. Physiological Training (Altitude Chamber) must be current for initial FCC certification, thereafter, chamber training is optional.

16.2.2.5. They must meet the physical exam standards for ASC 9C, *Operational Support Personnel*, IAW AFI 48-123, *Medical Examination and Standards*.

16.2.2.6. FCCs must be qualified and current as an engine run supervisor (fixed wing only), refuel/defuel supervisor, and tow supervisor. This applies for liquid oxygen/nitrogen servicing (as required for applicable aircraft), GTC/APU/APP operator (as applicable), tire changing, flare/chaff loading (as required for applicable aircraft), and chemical warfare defense as well.

16.2.2.7. They must be fully certified on all aerospace ground equipment (AGE) for the weapons system assigned.

16.2.2.8. They must have, as a minimum, a secret security clearance.

16.2.2.9. All immunizations must be current for worldwide deployment.

16.2.2.10. If assistant FCCs are designated, they will receive SDAP only if current manning authorization levels permit. Assistant FCCs must meet the minimum qualifications listed in AFI 21-101 Chapter 3.

16.2.2.11. Assistant FCCs must be accompanied by a fully qualified FCC on all missions.

16.2.3. Squadron Commander Options. Options may only be exercised in coordination with applicable flying squadron commanders. Flying squadron commanders may require any or all of these options. It shall be incumbent upon the unit requiring the option to fund applicable training or to arrange mutual funding with the unit tasked to provide individuals compliant with the required option(s). The following are highly recommended training/certification options commanders may use at their discretion:

16.2.3.1. Survival, Evasion, Resistance, and Escape training. (If desired, must be documented on DD Form 1833, **Isolated Personnel Report**, and maintained at unit intelligence section.) Actual training will be conducted by local intelligence personnel.

16.2.3.2. Current passport

16.2.3.3. Physiological Training (Altitude Chamber) - After initial certification has expired.

16.2.3.4. Wet water ditching training.

16.2.3.5. Underwater Egress Training (Rotary wing aircraft only).

16.2.3.6. Weapons Qualification Training on selected weapons (in addition to standard M-16 training) as required by each flying squadron.

16.3. Special Duty Assignment Pay (SDAP). When FCCs meet the requirements of this instruction and AFI 21-101 they qualify for SDAP. FCCs will fly a minimum of 3 qualifying missions per quarter to satisfy requirements for payment of SDAP. FCCs will receive SDAP as an incentive or reward for providing qualified maintenance support on assigned aircraft away from home station. SDAP will commence upon successful completion of the preceding quarter. (Commanders may waive the minimum three (3) trip per quarter requirement on a case-by-case basis. Only one waiver per crew chief per fiscal year is authorized, and then only when circumstances beyond the control of the crew chief prevented trip accomplishment. Forward the waiver to 16 SOW/FMF (or equivalent for overseas units) for approval. Provide information copy to HQ AFSOC/LGMM. Subject to MAJCOM approval, SDAP will not be interrupted).

16.3.1. If a FCC is suspended or disqualified for cause from flying, they must be removed from the Unit Manning Document (UMD) position to preclude the possibility of unauthorized payment of SDAP.

16.3.2. Reinstatement must not occur within one year IAW AFI 21-101, *Maintenance Management of Aircraft*.

16.4. Administrative Reporting Procedures. The appropriate operations squadron will enter the FCC's name on the AFSOC Form 41, **Flight Authorization** when the aircraft is scheduled for a mission. Attach the FCCs TDY orders to the AFSOC Form 41.

16.4.1. Temporary Duty (TDY) Orders. TDY orders are issued as outlined in AFI 65-103, *Temporary Duty Orders*. (TDY orders are not required if the mission is out and back on the same day). In addition to normal required statements, the orders will specify the following:

16.4.1.2. Individuals are accompanying their aircraft during the entire mission. If a situation arises where this is not possible, the FCC contacts their home station and briefs the situation to the aircraft maintenance coordination center.

16.4.1.3. Individuals are billeted in crew quarters with the aircrew; however, since the FCC is subject to calls from local maintenance managers requiring assistance, the FCC does not share a room with aircrew members.

16.5. Miscellaneous Requirements.

16.5.1. Unit Request for Change/Waivers. Units may submit requests for change to this instruction or request waivers to AFI 21-101, as necessary, to HQ AFSOC/LG via normal command channels, who in turn will coordinate the request with HQ AFSOC/XP. Changes, upon MAJCOM approval, will be forwarded back to the unit(s) concerned for changes to this instruction, or to USAF/ILMM for approval/disapproval, if AFI 21-101 is affected. AFSOC/LGMM will notify units of waiver approval/disapproval by Air Staff through normal channels.

16.5.2. Flying Crew Chief Work and rest plan. The FCC, aircraft commander, and the off-station supervisor will coordinate and establish a FCC work and rest plan, either upon arrival or during aircrew debriefing, to facilitate necessary maintenance actions and prepare the aircraft for flight. Based on mission requirements, the AC is the decision authority to determine when the FCC begins a rest cycle for the next mission. The FCC is allowed the opportunity for a minimum of 8 hours sleep during every 24 hours, not to exceed a 16-hour duty day during flying periods. When an aircraft requires extensive maintenance at off-station locations, the work and rest plan will not exceed a work cycle of 12 hours. The work/rest plan is adjusted to give the FCC an adequate rest period prior to aircraft departure. The FCC rest periods may be interrupted when absolutely necessary for questions concerning the maintenance history of the aircraft or for war or peacetime emergencies. The FCCs duty day is stopped if safety is jeopardized due to fatigue.

16.5.3. Name Display on Aircraft. Placement of the FCC name is uniform on all assigned aircraft IAW AFSOCI 21-101, *Aircraft Markings and Insignia*; and T.O. 1-1-4, *Exterior Finishes, Insignia and Markings*.

16.5.4. Flying Crew Chief Uniform Patch. FCCs will wear the subdued crew chief patch (when available) above the name tag on the flight uniform. FCCs are not authorized aircrew member badges.

16.5.5. **Forms Prescribed.** AFSOC Form 24, **Quality Services Evaluation and Inspection**, AFSOC Form 25, **Debriefing and Recovery Data**, AFSOC Form 26, **Inspection Workcard Cover**, AFSOC Form 29, **Equipment Checklist Cover**, AFSOC Form 30, **Equipment Checklist**, AFSOC Form 31, **Aircraft -21 Equipment Inventory**, AFSOC Form 41, **Flight Authorization**, AFSOC Form 88, **Flying Crew Chief Trip Report**.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Accomplishment Utilization Report (AUR). A background report showing the flying schedule accomplishments on a daily, weekly or monthly basis (AFSCM 21-574 Volume 2, *Core Automated Maintenance System*).

Addition. A sortie or aircraft added to the printed weekly flying schedule.

NOTE: If an aircraft takes off more than 4 hours past its scheduled takeoff time, it is counted as a cancellation and as an added sortie.

Air Abort. An airborne aircraft that cannot complete its primary or alternate mission.

Air Deviation Code. A deviation from the scheduled sortie flight plan occurring after aircraft takeoff.

Aircraft Sortie. A sortie begins when an aircraft becomes airborne or takes off vertically from rest. A series of practice landings shall be considered one sortie. Helicopter missions with multiple landings and takeoffs may be documented as one sortie. Multiple helicopter takeoffs and landings involving FCF missions may be documented as one sortie for each day. Except for a continuation sortie, a sortie ends after airborne flight when the aircraft returns to the surface and one of the following actions occurs: (1). All engines are stopped; (2). The aircraft is on the surface for 5 minutes.

Alert Sorties. Sorties flown from alert because of a higher headquarters exercise, active air or practice scramble, or committed to fly from alert on the printed weekly schedule will be considered sorties scheduled and flown as scheduled.

Cause code. A code identifying the specific reasons or cause for an interruption or change of a scheduled aircraft sortie.

Cause Code Table. Allows user to load, change, delete or review CAMS deviation cause codes (AFCSM 21-565, Volume 2).

Chargeable Indicator. An indicator identifying a ground deviation or air deviation as chargeable or non-chargeable when calculating aircraft sortie scheduling effectiveness.

Continuation Sortie. When a mission crew completes their training and returns to base early for an operation stop, with engines running and not requiring maintenance servicing, for the sole purpose of on/off loading of mission crew members.

Crew Ready. An aircraft that has been properly inspected, fueled, required weapons loaded, necessary maintenance actions completed, the exceptional release signed off (for the first flight of the day), and the tail number passed to operations. Only certified and authorized maintenance personnel can call an aircraft crew-ready.

NOTE: Units will develop and publish specific crew-ready times for each assigned MDS as agreed upon by the OG and LG commanders.

Crew Show. The time that the aircrew arrives at the aircraft.

Cancellation. An aircraft or sortie that is removed from the printed schedule for any reason prior to, or after crew show.

Deployed Sorties. Sorties launched away from home base or isolated areas at home base, with parent unit maintenance provided. For the purpose of this regulation deployed sorties are considered home station sorties.

Deviation. A departure from the printed weekly flying schedule.

Deviation Detail Listing. A background report showing a detailed listing of all flying schedule deviations for a specific time period (AFCSM 21-565, Volume 2).

Deviation Start/Stop/Correction/Abort/Delete. Allows documentation of scheduling deviations in CAMS (AFCSM 21-565, Volume 2).

Deviation Summary Report. A background report showing a summary of all flying schedule deviations for a specific time period (AFCSM 21-574, Volume 2).

Early Takeoff. Sortie that departs 15 minutes to 2 hours prior to the scheduled takeoff time.

NOTE: If the sortie takes off more than 2 hours prior to scheduled departure, a new line must be added to the schedule.

Flown as Scheduled Sortie. A sortie flown by a specific aircraft on the date and time indicated on the printed weekly schedule, and those aircraft that are defined as "flown as scheduled" elsewhere in this instruction.

Flying Scheduling Effectiveness. Rate used to determine how well the flying schedule was executed.

Functional Check Flight (FCF). The flight of an aircraft, in accordance with applicable dash-6 manual, to verify the airworthy condition of the aircraft.

Ground Abort. Event after crew show time that prevents a "crew ready" aircraft from becoming airborne.

Ground Deviation Code. A code identifying deviation from the schedule sortie prior to takeoff.

Home Station Sortie. Sorties launched from the home base or deployed locations where parent unit maintenance is provided.

In-Flight Emergency (IFE). An airborne aircraft that encounters a situation or emergency that results in an IFE being declared by the aircrew.

NOTE: This is not a deviation, but will be recorded IAW Chapter 6.

Late Takeoff. Scheduled sortie launched more than 15 minutes but less than 4 hours after scheduled takeoff time.

Maintenance Scheduling Effectiveness. A measurement used to determine what percent of the scheduled maintenance actions were actually started on or before the dates published in the weekly flying schedule.

Mission. A scheduled line on the schedule that could have multiple sorties. For scheduling effectiveness purposes we will use missions.

Off-Station Sorties. Sorties flown away from home base (cross-country) and parent unit maintenance is not provided. These are aircraft that divert or break off-station and parent unit maintenance is sent to repair and launch the aircraft.

NOTE: Off-station sorties are considered flown as scheduled. Deviations incurred are not used in scheduling effectiveness or abort rate computations.

On-Time Takeoff. A sortie that departs on or up to 15 minutes after the scheduled departure time will be considered an on-time takeoff. Actual departure time will be noted upon notification by the aircrew of liftoff and subsequent verification by flightline maintenance supervision.

Operational Check Flight (OCF). The first flight of an aircraft that has had extended downtime or extensive maintenance which does not require an FCF.

Operational Event Cancellation. Cancels a scheduled sortie or operational event (AFCSM 21-565, Volume 2).

Operational Event Load. Allows loading of a weekly flying schedule into CAMS in blocks of aircraft which have the same takeoff times (AFCSM 21-565, Volume 2).

Operational Event Tail Number Swap/Tail Number Spare. Allows moving a scheduled sortie number from one aircraft tail number to another aircraft tail number (AFCSM 21-565, Volume 2).

Operational Event Update. Allows changing of takeoff and landing date and times in CAMS (AFCSM 21-565, Volume 2).

Pen and Ink Changes. Changes made to next week's flying schedule prior to 1600 hours local Friday.

Recur. A recurring discrepancy on an aircraft occurs on the second through fourth sortie or attempted sortie after corrective action has been taken, the system or subsystem was used, and the same malfunction is indicated.

Repeat. A repeat discrepancy on an aircraft occurs on the next sortie or attempted sortie after corrective action has been taken, the system or subsystem was used, and the same malfunction is indicated.

Scheduled Sortie. An aircraft scheduled for flight by tail number on the weekly flying schedule and confirmed on the daily flying schedule. FCFs and OCFs are excluded.

Scheduled Maintenance Actions. A maintenance requirement printed in the flying schedule.

Sortie Contract. A sortie contract is the written agreement between operations and maintenance and approved by the wing/logistics group commander or their designated representatives. It specifies the number of sorties and hours to be flown. The contract is the final resolved product between operational requirements and maintenance capabilities.

Spare. An aircraft designated as a spare on the printed schedule. Aircraft that have been deleted, aborted, have flown an earlier sortie, or an aircraft that has been released after FCF/OCF qualify as a spare for the remainder of that day.

Weekly Flying and Maintenance Schedule. The schedule agreed to by operations and maintenance, and signed by the wing/group commander, to support the unit's flying and maintenance requirements.